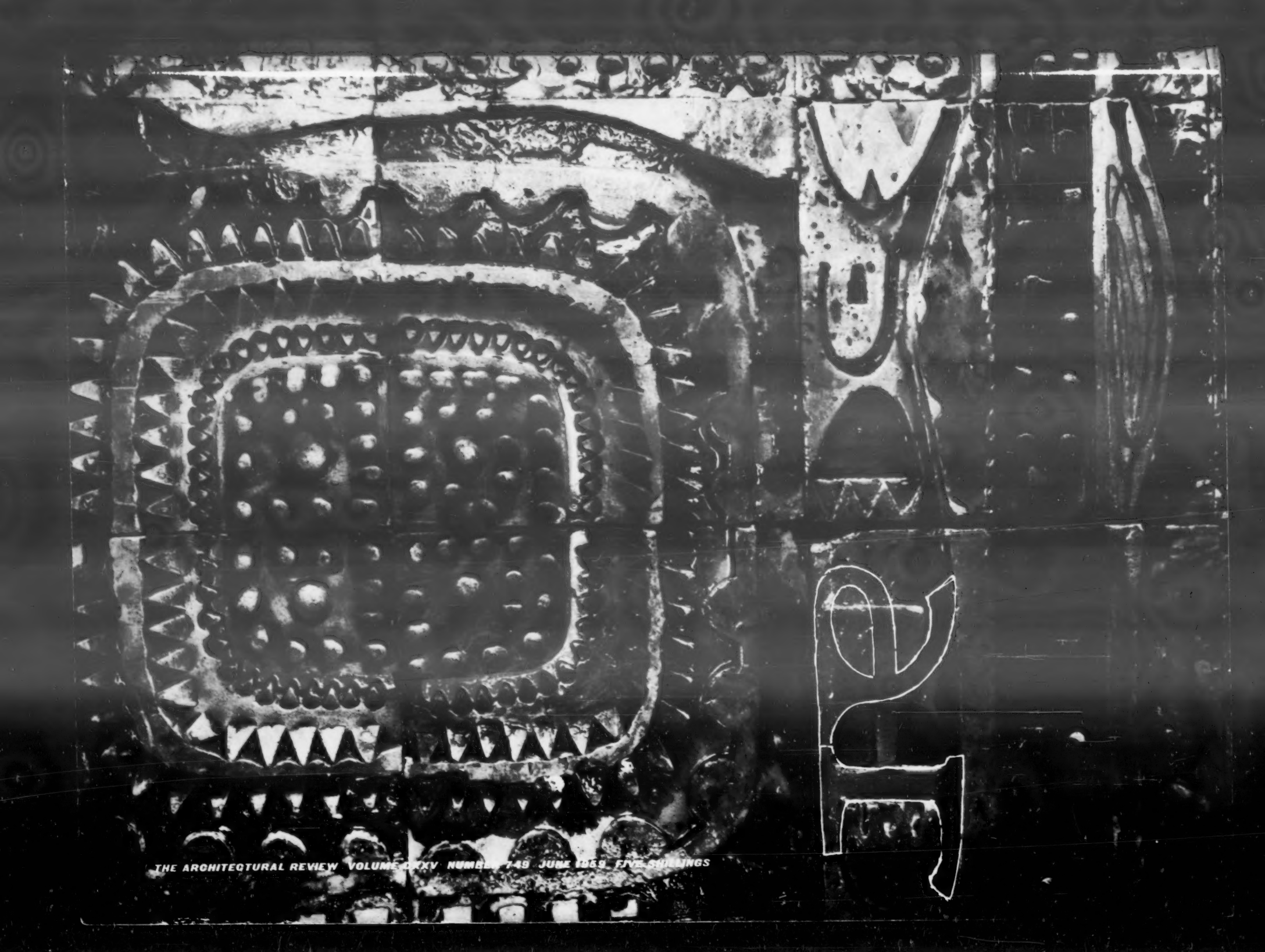
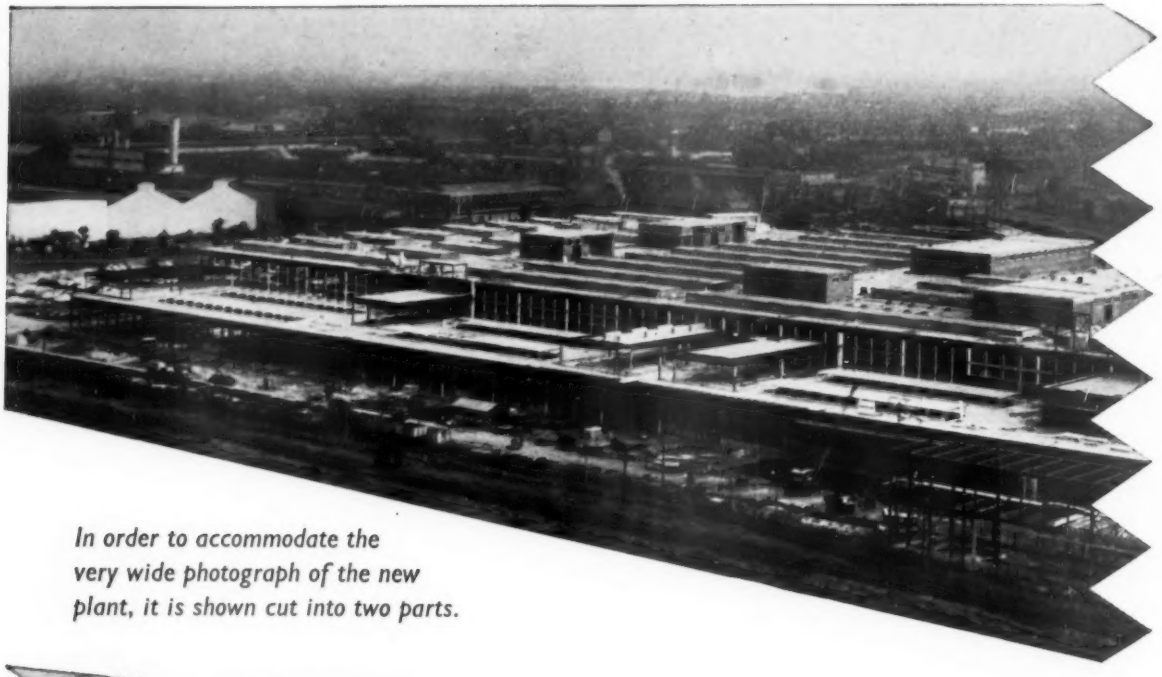


THE ARCHITECTURAL REVIEW VOLUME CXXV NUMBER 749 JUNE 1959 FIVE SHILLINGS



In order to accommodate the very wide photograph of the new plant, it is shown cut into two parts.

FORD
MOTOR COMPANY LTD
(BODY MANUFACTURE GROUP)

Total weight 16,500 tons, of which 15,000 tons were erected in ten months.

Consulting Engineers: Posford, Pavry & Partners Contractors: G. Percy Trotham, Ltd.

STEEL
STRENGTH
SECURITY

STEELWORK BY
REDPATH BROWN

Branches: Edinburgh, Glasgow, London and Manchester

THE ARCHITECTURAL REVIEW

Volume 125 Number 749 June 1959

The Cover shows one of the dominant corner-repeats from a pattern of prototype concrete cladding-panels devised for an LCC development in Wilson Grove, Bermondsey, by the artists Anthony Hollaway and William Mitchell. Not only does this raise architect-artist collaboration to a new key (for England at least) but it also extends the widening exploration of the aesthetics of concrete surfaces. In this case the material is plastic-skinned over most of the pattern, but exposed, untreated concrete surfaces will be found discussed on pages 386-397 of this issue in an article by John Eastwick-Field and John Stillman.

Directing Editors	J. M. Richards Nikolaus Pevsner H. de C. Hastings Hugh Casson
Executive Editor	Ian McCallum
Art Editors	Gordon Cullen Kenneth Browne
Technical Editor	Lance Wright
Assistant Editors	production, Moira Mathieson. literary, Reyner Banham. Editorial Secretary Whi 0611-9

SUBSCRIPTION RATE: The annual post free subscription rate, payable in advance, is £3 3s. 0d. sterling, in U.S.A. and Canada $10.50, in Italy Lire 6940, elsewhere abroad £3 10s. 0d. Italian subscription agents: A. Salto, Via Santo Spirito 14, Milano; Librerie Dedalo, Via Barberini 75-77, Roma. An index is issued half-yearly and is published as a supplement to the REVIEW.

THE ARCHITECTURAL REVIEW
9-13 Queen Anne's Gate, Westminster, SW1
Whitehall 0611 Five Shillings

371 **Correspondence**

371 **Marginalia**

374 **Frontispiece**

375 **. . . . Grooves of Change** *by Geoffrey Grigson*

378 **Lodging Houses for Magdalene College, Cambridge:** *Architect, David Roberts*

382 **Lodging Houses for Clare College, Cambridge:** *Architect, David Roberts*

386 **Out of the Form** *by John Eastwick-Field and John Stillman*

398 **Piccadilly Circus: Advertising into Architecture** *by Kenneth Browne*

402 **Paper Mill at Northfleet:** *Architects, Farmer and Dark*

407 **Peacock Room** *by Peter Ferriday*

415 **The Exploring Eye: Valley of Towers**

418 **Interior Design**

Showrooms at Ipswich

Bookshop in Baker Street, London

422 **Design Review**

424 **Current Architecture**

Miscellany

427 **Exhibitions**

429 **World**

431 **Counter Attack**

433 **Skill**

Pitched Roof Coverings *by Peter Whiteley*
Part III Unit Coverings Concluded

440 **The Industry**

440 **Contractors**

CORRESPONDENCE

Skirting Heating

To the Editors.

Sirs,—Mr. John Voelcker's article in your February issue (Skill—Whole House Heating) is most interesting and the opening paragraphs in particular very informative.

Under the heading 'Skirting Heating' though, he seems misleading and his advice is not confirmed by the writers' extensive experience of this system. Although skirting heaters have greater outputs per foot when their output is either wholly or partly convected warm air, there is always the problem of wall marking, as with any type of heater emitting warm air. For this reason, at least one manufacturer says that his radiant-convector skirting heaters should only be installed under the cills of low windows if the general wall finish is such as is likely to mark.

The pundits agree that radiant heat achieves comfortable conditions with a lower air temperature, so Mr. John Voelcker's contention that radiant heat is not best emitted at skirting level seems doubtful. The old adage 'warm feet—cool head' is well served by this type of heating when radiant skirtings are used on outside walls of an average room—usually all that is needed. Another advantage of the wholly radiant panels is that they produce a more comfortable effect than the convective type.

In his concluding remarks, Mr. Voelcker correctly points out the advantage of glass letting the sun in '. . . at the right time of day . . .' But he does not remind his readers that during the evening hours, when a house most needs heat, extensive glass areas, single or double, lower the room temperature considerably.

Yours, etc.,

GILBERT R. JACKSON & PARTNERS
Tunbridge Wells,
Kent.

John Voelcker replies:

I am grateful to Gilbert R. Jackson & Partners for their observations particularly since I have little experience of baseboard heating.

My remarks were based on the assumption that ideally convected heat should be introduced at low level and that radiant heat should be emitted from large low temperature surfaces. The observations made show how this sort of assumption must be modified in practice.

Regarding the use of sunlight I believe that in my original draft for the article I added that curtains are normally drawn over windows in the evening and that these to some extent increase the thermal resistance of the panels when heat loss is greatest.

MARGINALIA

Barking Concourse

Work should begin this year on new buildings to accommodate passenger facilities at Barking Station.

most notable among them being the concourse, 1, a reinforced concrete structure built entirely over the tracks. Comparisons will certainly be drawn between this structure and that of the front concourse of the *Termini* Station, Rome, but this one, not being backed up on to a large and almost windowless block behind

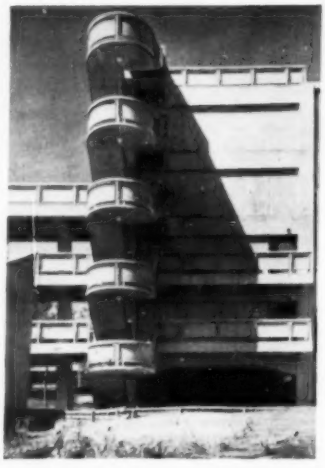
1

will, in practice, create an entirely different effect, effectively transparent in all directions, and not only along its longitudinal axis. However, irrespective of any resemblances to other stations, this new block, like the prototype waiting room furniture designed by Robin Day (AR Nov., 1956) is an earnest of the attempt being made by Eastern Region of British Railways, under its architect H. H. Powell, to raise its general standard of design.

A University is Circulation

The idea of presenting the visual image of university buildings as a system of spaces and circulation ways, is known in the West through very little beside the Smithsons' Sheffield University project, but it seems to be the coming thing in Japan, and a series of recent University buildings there have flourished their circulations on the exterior of the block, rather than concealing it within. Whatever local pressures there may be (such as a largely pedestrian student body) producing this trend, the result suggests that Japanese architects are keen to get full value out of it. The extreme case, which has forced the trend on public attention is afforded by blocks Six and Seven at Meiji University, linked by a multi-storey screen of stairs and balconies, 2. More distinguished architecturally, if less immediately exciting, than this work of Sutemi Horiguchi, are two other new academic buildings in the Tokyo area; a block of lecture rooms, etc., for Siejo University by Makuto Masuzawa, 3, and another vast scheme, this time for Hosei University by Hiroshi Oye, with a dramatic system of ramps on its south façade, 4. Yet in spite of the obviously greater finesse of these two projects, Horiguchi's work at Meiji, where he is a teacher, ultimately commands more attention simply by virtue of its extremism, the uninhibited manner in which it exploits the possibilities of creating a new kind of university image, a new kind of collegiate space consisting

2



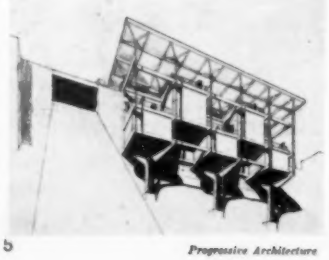
3

4

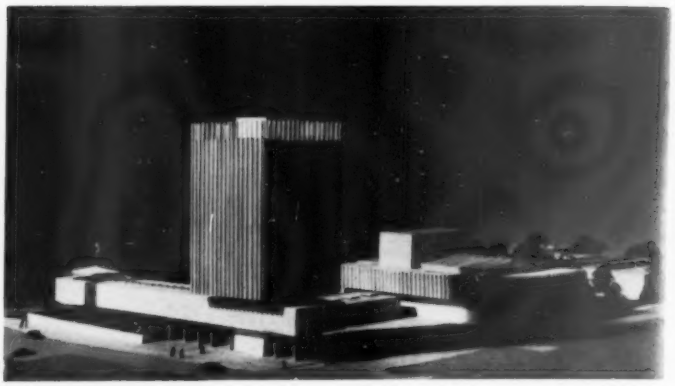
of superimposed decks and concourses. The west elevation of this schemes, shows that there is still a good deal of university below ground level, and suggests that with subterranean car-parking, this kind of planning (or should one say sectioning?) might be a workable solution to university buildings on urban sites in the west as well.

Aluminium Tree-House

Progressive Architecture's annual design-awards and citations tend—and they are probably right—to go to projects whose merits are solid, rather than spectacular. Among the 1959 awards, however, there is at least one design that is conspicuously both—the Tree-house Restaurant, 5, devised by the architects Steinhardt



5 *Progressive Architecture*



6

and Thompson to satisfy the needs of clients rejoicing in the name of the Duquesne Inclined Plane Company, operators of a fine old funicular railway overlooking the Allegheny river at Pittsburgh. The restaurant will create a new and additional *raison-d'ê.re* for this ancient mechanical tourist attraction, whose highly decorative Victorian winding gear will be seen in a well in the centre of the restaurant. The out-branching structure, in aluminium, can be brought down on to only three footings on the front, because of difficult soil for piling, but still contrives to bring the viewing-terraces well forward of the edge of the bluff.

Hampstead Civic Centre

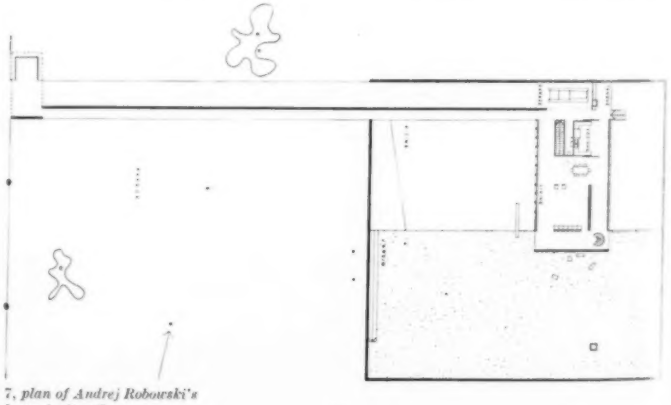
The appointment of Basil Spence as architect for the new civic centre in Hampstead was a salutary demonstration of what can be achieved by local architectural 'ginger groups'—in this case the Hampstead Society formed, in the first place, specifically to combat the risk of a safe, neo-Georgian town hall. That they have achieved their aim is amply shown by the preliminary model of Basil Spence's scheme, 6, with its office tower standing up above the present entrance to Swiss Cottage underground station at the corner of Avenue Road. The Mayor's suite is seen running off to the left, with the council chamber at its end. The assembly rooms are in the block on the right, with the swimming pools further down the slope, and the new library is, in this view, invisible behind the office tower. Underground car-parking will also be invisibly located (in all views) behind the tower block, provided the LCC's final solution to the Swiss Cottage traffic problem makes this feasible.

Two-way Split on Roman Themes

As it has entered the common mind of modern architecture, Hadrian's Villa at Tivoli is chiefly a great wall, slashing across the countryside in a grand, if meaningless, architectural gesture, but it had originally a portico running its full length on either side, and provided a split-plan access corridor, with gentry on one side and slaves on the other. A neat machine-age version of this theme has recently been projected for a week-end house in Brazil by Andrej Robowski, who uses just such a wall to divide pedestrian and vehicle access from road to house, 7. However, having split things one way, he splits them again the other way, and the forecourt of the house drops down a floor, before reaching swimming-pool level, 8, with a private cinema under the car-port. Such semi-subterranean planning was also, of course, a device of Roman domestic work, but more in the Mannerist phase, as in the nymphaeum of the Villa Giulia, which is also a swimming pool one storey below datum.

Site for a Monument

Photomontages which were shown at the Brussels *Expo* 58, but have not otherwise been seen by the British public, enable us to form some idea of the way Reg Butler's celebrated *Monument to the Unknown Political*



7, plan of Andrej Robowski's house in Brazil.

8, section, showing the swimming pool.

Shower Song

Bending and turning and gaily carolling
Loving the feel of the tropical rain
Leaving to Leonard the job of controlling
Once she gets in she just wants to remain.

Gone are the quirks of the old fashioned mixer
Everything else but never just warm,
Thermostat Leonard is fitted to fix her
And keep the temp. fast at divinity's norm.

"Keeping the temp. fast" is just what Leonard control by thermostat does. It turns stone-cold and stinging-hot into steady warm — immovable until the bather moves it. It makes the shower, the Leonard shower, the best bath in the world. That's why the Leonard valve has come to be specified by architects everywhere not just for showers in hospitals and schools, but also in factories and mines and ships.

Please let us tell you more about Leonard thermostatic valves. We have composed literature to cover all applications in detail. Write for engrossing publication sc.70 to: Walker Crosweller, Cheltenham. The impetuous should 'phone us at Cheltenham 56317 or, in London, at Holborn 2986.

WALKER, CROSWELLER
& COMPANY LIMITED

CHELTENHAM. ENGLAND.

≪ INGLEWOOD ≫ DESIGN CENTRE AWARD 1959 · A TAPESTRY WEAVE BY

EDINBURGH WEAVERS

102 MOUNT ST · LONDON W1

Prisoner will look on its site, now settled, in West Berlin. The actual setting will be the Humboldt-Hohe, a natural hill, 9, in the district of

9

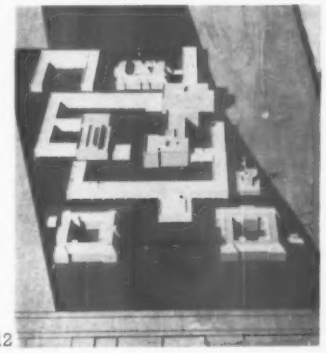
Wedding, north-east of the Tiergarten, and close to the border of the eastern zone. Site-work has yet to begin, but should do so shortly, and will involve the removal of two concrete bunkers that still survive on top of the Humboldt-Hohe. The fabrication of the steel-work will be done in Germany, and the bronze figures on the 'plinth' will be begun in England, but cast in a foundry in Berlin.

10

One of the most valuable aspects of these photomontages is that, properly interpreted, they give a better idea than has been available before, of the actual scale of the Monument, by showing it in an urban setting. When it is realized that the fence in the foreground of 10 is head-high to a pedestrian on the pavement, both the height of the Humboldt-Hohe, and the extent to which it slopes back to the base of the monument, can be understood and, with that, the size of the structure itself.

Anti-Axial

In the study of English University planning that appeared in AR, October, 1957, the University of Hull was noted as an example of the way in which a purely axial plan hampers organic growth, and results in ridiculous lopsided forms during the process of delayed completion of its parts. The site, in particular, does not lend itself to an axial scheme at right angles to the road frontage, and when Sir Leslie Martin and Colin St. John Wilson were invited recently to consider the future development of the University, they produced a plan, 12, in which the fragments of



12

unfinished axiality are subsumed in a new concept of ribbons of buildings creating an asymmetrical grouping of collegiate courtyards. Besides affording a better setting for university life and a comprehensible plan on the site, the new scheme also offers a greater potential floorspace, and a means of dealing with the specialized buildings needed for specialized teaching functions.

OBITUARY

George Pepler—1882-1959

Sir George Pepler, who died in Dorset on April 13, was in at the birth of statutory town planning in Britain during the enthusiastic years preceding the First World War. Eighteen years old when the century began, George Pepler left school at Cambridge to be articled to a surveyor, setting up his own plate when he became 21. He absorbed experience quickly and conceived a passion for the English countryside, which Rupert Brooke was expressing in poetry, and he in every kind of practical prose from technical reports, to memoranda on preservation, or appeals for the purchase of playing fields. Ten years later he was one of the group of architects, engineers and lawyers who founded the Town Planning Institute and set the tone of future legislation to control the use of land, which has remained with us ever since.

It combines idealism with a spirit of reasonable compromise; the acceptance of control and regulation provided that the individual can back his fancy; a preference for landscape over cityscape; a respect for the family and also for local government; a real love of justice and fair play.

Pepler was himself the ideal referee. As a civil servant, as an inspector, as an adviser, and as an examiner. His obvious integrity made him just as popular abroad; and he came to preside at conferences in New York, Mexico City, Vienna, and The Hague. He was not a linguist, nor could he communicate easily in the language of design. Nevertheless, he exported everywhere the British way of planning—a concept of freedom within authority. On the technical side his contribution began in the field of cottage and garden city layout and ended with something far more advanced, namely, the machinery and methods of regional planning. Architecturally, George Pepler was conservative, although never obscurantist (he was elected an Honorary Associate of the RIBA in 1937); but in any matter concerned with the size of towns, the movement of population and industry, the use of green belts, parks, commons and playing fields and, above all, *the opportunities that could be made* for good housing, or for architectural and landscape design, he had a rare combination of vision and administrative sense.

W. G. Holford

11

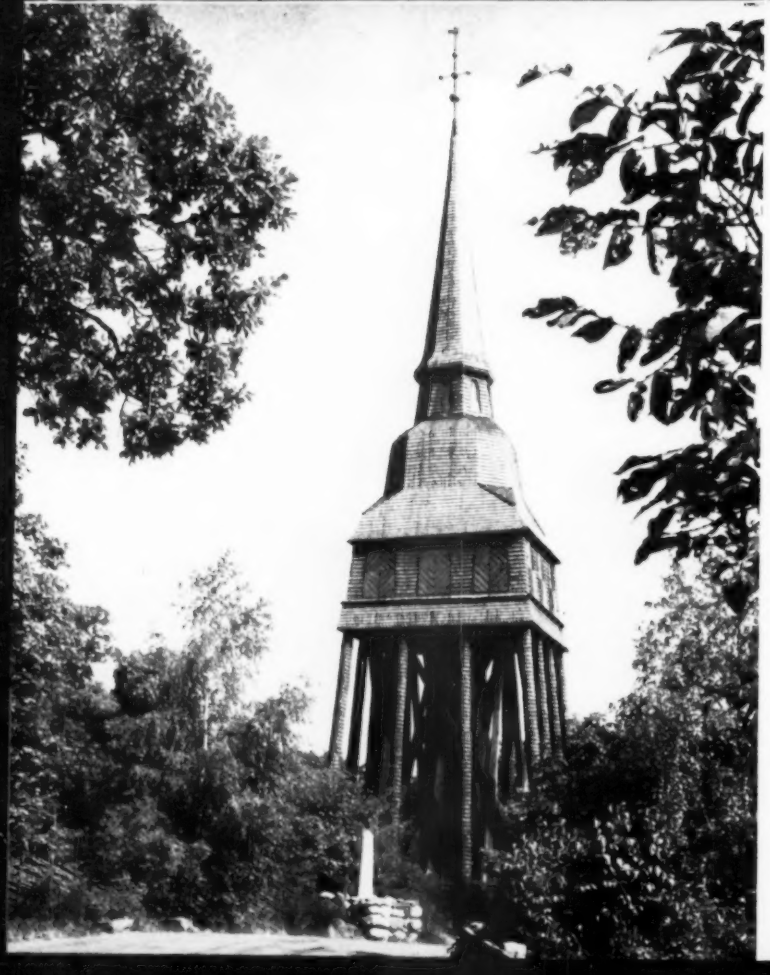
Frank Lloyd Wright died on April 9, almost in sight of his ninetieth birthday—the unpublished photograph, above, shows how he looked when visiting a building site with young English architects on his last visit to England in 1956. His unique career, both as a pioneer of modern architecture, and as a master of its maturity, will be the subject of a critical appreciation in a forthcoming issue of the AR. His influence in every part of the world is well known, but even readers of the AR may not know that he used the phrase 'Outrage in the name of public authority' in a telegram of support for the Review's Wirescape *feature (December 1951) and thus gave us the title of our first special issue against Subtopia* (Outrage, *June 1955). Frank Lloyd Wright's last book, 'A Testament' was published by the Architectural Press in May.*

INTELLIGENCE

The Imperial College of Science and Technology has announced the appointment of Miss Sylvia Crowe as landscape consultant for the development of their central site in South Kensington.

ACKNOWLEDGMENTS

MARGINALIA, pages 371–373: 1, British Railways Eastern Region; 9, 10, Reg Butler; 13, John Donat. FRONTISPIECE, page 374: Eric de Maré. LODGING HOUSES AT CAMBRIDGE, pages 378–385: Magdalene 1, 3, 9, Galwey, Arphot; 4, 6–8, 10–11, Edward Leigh. Clare 12, Edward Leigh; 13–22, Galwey, Arphot. OUT OF THE FORM, pages 386–397: Frontis, 47, Carl Nesjar; 1, 28–36, Galwey, Arphot; 4, 13–20, 22–25, 37, 38, Stillman and Eastwick-Field; 5, Commercial Studios; 40, Shell Photographic Unit; 41, John Maltby; 46, K. Teigen Fot. PICCADILLY CIRCUS, pages 398–401: Browne, Arphot. PAPER MILL AT NORTHFLEET, pages 402–406: Galwey, Arphot. PEACOCK ROOM, pages 407–414: Frontis, 1, 8, Freer Gallery of Art, Washington; 3, National Buildings Record. VALLEY OF TOWERS, pages 415–417: David Bowes Lyon. INTERIORS, pages 418–421: 4–7, Alfred Cracknell. DESIGN REVIEW, pages 422–423: Kold Christensen. CURRENT ARCHITECTURE, pages 424–426: 1, John Pantlin; 3, Colin Westwood; 4–6, Felix Fonteyn. MISCELLANY, pages 427–432: Exhibitions, 1, Stearn & Sons (Cambridge); 2, Fitzwilliam Museum, Cambridge; 3, 4, Marc Vaux; 7, Oscar Savio; 8, Sam Lambert. Bell Towers in Europe, 3, 7, 11–13, Eric de Maré; 2, 4–6, 9, Antikvarisk-Topografiska Arkivet. Counter Attack, Nairn, Arphot.



TIMBER TOWERS

As unique a regional architecture as the *trulli* of Southern Italy or the round towers of Ireland, the timber belfries of Sweden are among the glories of European peasant art. Two basic types dominate, the tower form, as in 1, from just north of Stockholm, and the open trestle, of which 2, at Söderkoping, is the oldest known example, dating from 1582. Whether simple, or sophisticated, as in Nils Urberg's twelve-pillared baroque masterpiece form Hällestad, 3, the trestle type always has its main structural timbers protected by the distinctive tarred oak shingles seen in 4, a detail of the Hällestad bell-tower, as Eric de Maré points out in his note on p. 429.

Geoffrey Grigson

. . . . GROOVES OF CHANGE

The Modern Movement in architecture is generally taken to stem from an acceptance of 'the Machine'—a view now disputed. In the article below, Geoffrey Grigson reflects on an earlier approach to machinery on the part of poets, contemporary with the high peak of the Functional Tradition in industrial buildings, and the way in which poetry succeeded in acclimatizing some of the elements of the industrial environment.

Who exactly is the Industrial Muse? At the moment she is, no doubt, the nymph or goddess Turn-over. Her special shrines are in the offices of advertising agents; her special devotees, her acolytes (her temple prostitutes?) are slick draughtsmen for whom the art schools have been created, and the slick copywriters for whom the dons created long ago the schools of English language and literature in the crumbling stone universities; and their bosses.

At first, if we can trust to the principle of selection Mr. Warburg has followed in his recent anthology,* Power appears to have been the Industrial Muse, or at any rate the aboriginal element of modern industry to attract poets and excite the popular admiration. Goddesses appear, of course. in different disguises; and it is at times impolitic—even dangerous—to mention their real name. Turn-over—or Dividend, or Profit—is now a nefandous name. Power, though, was innocent enough in the eighteenth century and early nineteenth century, whether for poet or industrialist, since it glorified man and promised increased benefits to mankind. And Power might at times be worshipped as Steam, Steel, Engine; might be addressed as Watt, or Fly Wheel, or Cyclops, as Railway, Iron Horse, or Delirious Motion.

The Beam-Engine sitting in the mines—in the coal mines. Savery before Watt or Trevithick or Stevenson:

> *Sagacious* Savery! Taught by thee
> Discordant elements agree,
> Fire, water, air, heat, cold unite,
> And listed in one service fight,
> Pure streams to thirsty cities send
> Or deepest mines from floods defend.

These lines are by the Rev. John Dalton (1709–1763), poet, sermon-writer, sometime fellow of the Queen's College, Oxford, a civilized cleric describing the mines near Whitehaven in Cumberland.

> High on huge axis heav'd, above,
> See ballanc'd beams unweary'd move!
> While pent within the iron womb
> Of boiling caldrons pants for room
> Expanded Steam, and shrinks, or swells,
> As cold restrains, or heat impells.

Steam is Virtue; Steam drained the coal mines of

* *The Industrial Muse. The Industrial Revolution in English Poetry. An Anthology compiled by Jeremy Warburg* (Oxford University Press, 15s.).

Cumberland or Durham, the copper or tin mines of Cornwall. Steam also manufactures, Steam gives employment, and gives dignity:

> And must we say 'that soul is wanting here?'
> No; there he moves, the thoughtful engineer,
> The soul of all this motion; rule in hand,
> And coarsely apron'd—simple, plain, sincere—
> An honest man; self-taught to understand
> The useful wonders which he built and plann'd.

—which is Ebenezer Elliott, from 'Steam at Sheffield,' which he wrote in the eighteen-thirties.

Steam also is more frankly romanticized. If Steam Power is at first (and simultaneously continues to be) Virtuous Power in human service, Virtue sloughs off, when the Power walks out of the mine precincts and out of the factory, and begins to locomote; when it comes home to the wonder of the ordinary man in his railway and his steam ferry. Steam Power, in wonderful and more than natural Locomotion, now joins the romantic energy troupe—joins Thunder, Lightning, Fire, Earthquake, Volcano, Avalanche, Tempest, and Human Will.

Poetry in this department is a little thin. One recalls Thackeray's Irishman in the Crystal Palace in 1851 looking at

> —staym Ingynes
> That stands in lines
> Enormous and amazing
> That squeal and snort
> Like whales in sport
> Or elephants a-grazing—

and crying for celebration by the poets:

> O would before
> That Thomas Moore,
> Likewoise the late Lord Boyron,
> Thim aigles sthrong
> Of godlike song,
> Cast oi on that cast oiron!

Mr. Warburg hasn't any poet quite to compare with J. M. W. Turner (but then painters are more simple-minded) in celebrating this romantic energy or triumph of Machine Power. Painter at once of light, nature, self, energy, and the first decades of Engine Movement, Turner celebrated iron, steam, steamer, locomotive, in the late 'thirties and 'forties. In the *Fighting Téméraire* of 1838, the Steam Tug is so much more important than the old sailing ship (though Turner's intention is always misinterpreted). In *Rain, Steam and Speed* of 1843, the new Locomotive sweeps along the new Viaduct, overhauling—Turner's mind has its lapses into the corny—the natural speed of the hare.

Still, there was Wordsworth, lamenting critically on the one hand, exulting upon the other—

> Yet do I exult,
> Casting reserve away, exult to see
> An intellectual mastery exercised
> O'er the blind elements; a purpose given,
> A perseverance fed; almost a soul
> Imparted—to brute matter. I rejoice,
> Measuring the force of those gigantic powers
> That, by the thinking mind, have been compelled
> To serve the will of feeble-bodied Man.
> (*The Excursion*, 1814)

There was Tennyson, more observant of flower than metal, a poet actually squashed in his optimism on to the very first train from Liverpool to Manchester in 1830, thinking that the wheels (which he couldn't see) ran in grooves, and not on rails, and writing—

> Not in vain the distance beacons. Forward, forward
> let us range,
> Let the great world spin for ever down the ringing
> grooves of change.
> Thro' the shadow of the globe we sweep into the
> younger day:
> Better fifty years of Europe than a cycle of Cathay. . .

He liked his 'grooves' so much that he never changed them.

What Mr. Warburg's selections make remarkably clear is that the Industrial Muse came home to poets (and people) above all in the Railway—that is to say, in what is not really her greatest, her potentially most virtuous, or her potentially most malignant manifestation, but only the one which is ubiquitous, obvious and domestic.

The threshing-machine invaded the farms. *The fly-wheel with a mellow murmur turn'd*, and induced a few neo-Virgilian reveries. The Machine was otherwise shut away behind the factory wall or concealed up in the Midlands and the North. It was the railway, Tennyson's symbol of the whole affair, which really invaded and possessed the mind; and which isn't dispossessed even now.

Railway poems persist—Wordsworth (1833), Tennyson (1842), Charles Mackay (1846)—

> —'No poetry in Railways!' foolish thought
> Of a dull brain, to no fine music wrought—

Landor (1849), D. G. Rossetti (1849), W. C. Monkhouse (1865), W. E. Henley (1876), R. L. Stevenson (1885), Kipling (1894)—

> —And all unseen
> Romance brought up the nine-fifteen—

Rupert Brooke (1913), D. H. Lawrence about the same time, Stephen Spender (1933), and W. H. Auden's train of the 'thirties, the Night Mail which passes *cotton grass and moorland boulder, Shovelling white steam over her shoulder*—

> In the farm she passes no one wakes
> But a jug in a bedroom gently shakes.

Last of all, now the railways are contracting, now their familiarity in our lives is less at a peak, John Betjeman (1954) exudes a nostalgia for the Metropolitan, and its early electrification in 1905—

> Early Electric! Sit you down and see,
> 'Mid this fine woodwork and a smell of dinner,
> A stained-glass windmill and a pot of tea,
> And sepia views of leafy lanes in PINNER,—
> Then visualize, far down the shining lines,
> Your parents' homestead set in murmuring pines.

Mr. Warburg's aim in *The Industrial Muse* isn't so very searching. It is rather a 'lit.' affair—which is a pity—than one which involves as well either a deeper imagination or sociology. He asks a question rather too simply affined to the too simple pylon aesthetic of Mr. Cecil Day Lewis—how long does an art take to accept and absorb new elements of environment into itself?

If Mr. Warburg's question isn't profound, it is

partly the fault of the poets; whose answer still remains illuminating, if dismal.

Acceptance (or acknowledgment) is slow, except by a few livelier minds. Approbation is soon mixed with dislike of the unfamiliar. Optimism is followed by critical pessimism; but there is a gradual settlement, a gradual change from predominant images (as of Power, Wonder, Speed), from such strong images which now and again recur, to images of the environmental element's now domestic normality. Observe that Auden's Night Mail is *she*; or that a local train becomes peace in time of disturbance:

> 'There's peacetime in that train.' One hears it disappear
> With needless warning whistle and rail-resounding wheels.
> 'That train's quite like an old familiar friend,' one feels.
> Siegfried Sassoon, in 1939.

The change, in other words, is gradual from the open eye to the eye which doesn't see, or doesn't bother, or bothers only for its own purpose.

Indeed, the rare thing in Mr. Warburg's survey of Industry and the Muse is critical imagination about the accompaniments or consequences of Industry, or of the Machine—such critical imagination as appears, in different strength, in Blake, Wordsworth, Clough, Hopkins, Auden (*New Year Letter* and *The Age of Anxiety*). In small part the poets' musing is sociologically moral and aesthetically critical; in most it is trivial. Early and late it is true that the poets' industrial musing concerns itself with Town (=Machine) versus Country (=Innocence, or Nature), or with industrial mess eating the country, or with bad conditions; but this is not a great deal else than bringing up to date an old feeling explicit long before the rise of an industrial society.

It is something to keep alive the moral recognition of an antimony, of course; and *per se* the arts are certainly in favour of the agreeable against the disagreeable. Yet mightn't one fairly conclude from Mr. Warburg's survey that these arts, whether poetry, painting, music, sculpture (or even architecture, building by individual building) have their own fish to fry? Mightn't one conclude that these arts are extremely poor allies for any special discipline which affects society, any specific, *ad hoc* cause such as the attack upon environmental beastliness or the promotion of environmental seemliness?

If I had to clear a country overrun with stinking ogres I should not ask the help of poets, who have as much interest in ogres as in nymphs, in evil as in good, in ugliness as in seemliness; who are concerned, in brief, to maintain contrary states. If I wished to re-house and re-plan and purge and beautify industrial or bourgeois suburbs the last person I should call upon is not only Mr. Betjeman, but any poet.

If, indeed, you could get at the Muse of the poets—or artists in general—and could thoroughly cross-examine her, she would petulantly ask you how white can be understood without black, how Venice can be appreciated without Glasgow; and she would point (unless she was in one of her arty-sentimental-do-gooding phases) to the dependence of the good building on the bad—until you, as an architect, might as well turn for support to William McGonagall, the Scottish Homer, whom Mr. Warburg includes most properly:

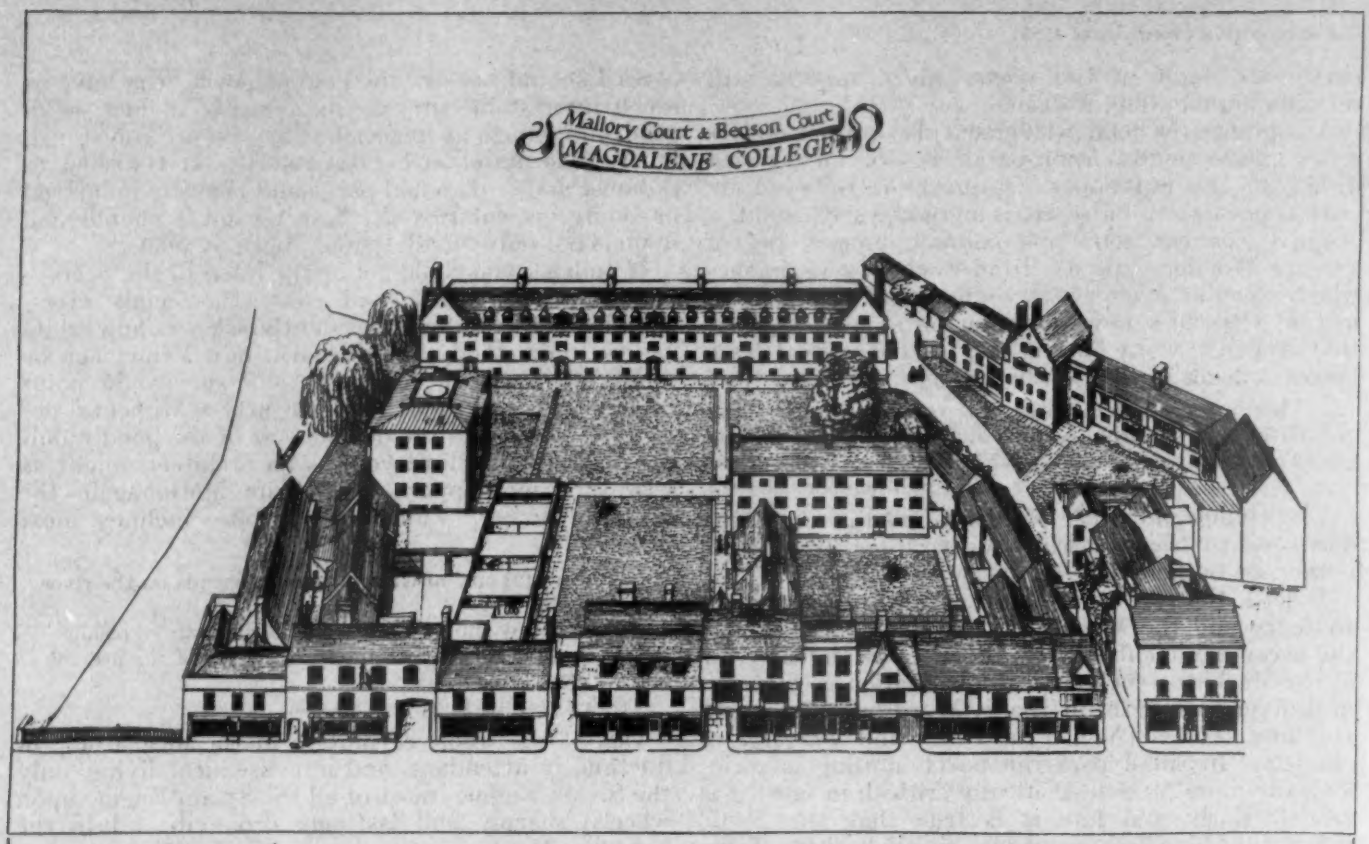
> O beautiful city of Glasgow, which stands on the river Clyde,
> How happy should the people be which in ye reside:
> Because it is the most enterprising city of the present day
> Whatever anybody else may say.

Out of the whole revolution in the means of production, in attendant, and in consequent living, only the Steam Engine (most of all the Steam Engine upon wheels) sharply and lastingly drove itself into the Common Mind.

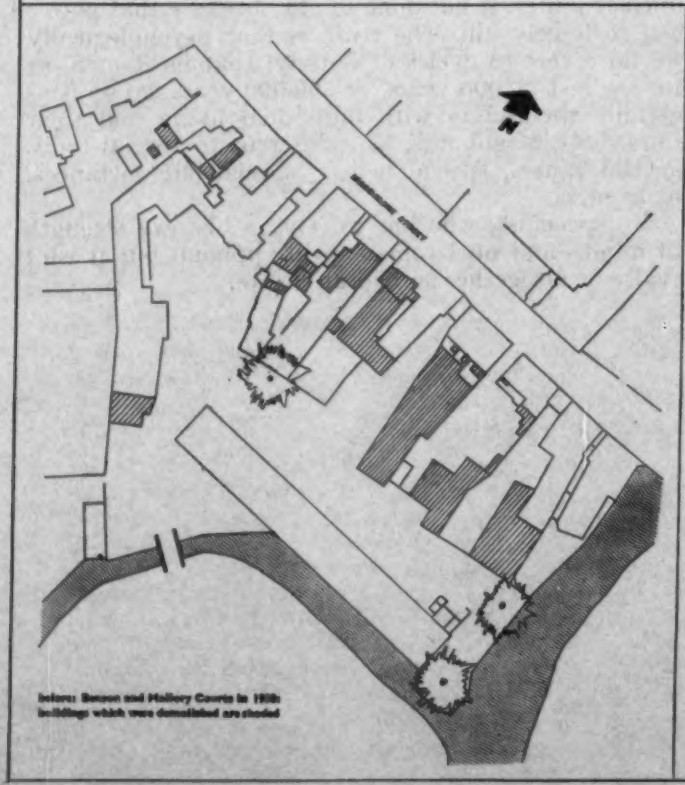
That appears the showing of Mr. Warburg's book. Everything else—electric power, electric illumination of old darkness, motor-cars, aeroplanes, sanitation, urbanism or the industrial mess which has now to be cleared—has been accepted without surprise as an outcome more or less 'natural.'

If the Common Mind has shuddered a little at nuclear power, it has done so only because that power can so hugely kill. The truth is that psychologically we do revert to cycles of Cathay; that most men, as for the last 50,000 years, or 500,000 years, go on concerning themselves with individual living and their immediate neighbours, as indifferent to special tools, special causes, special beliefs, special circumstances, as to mess.

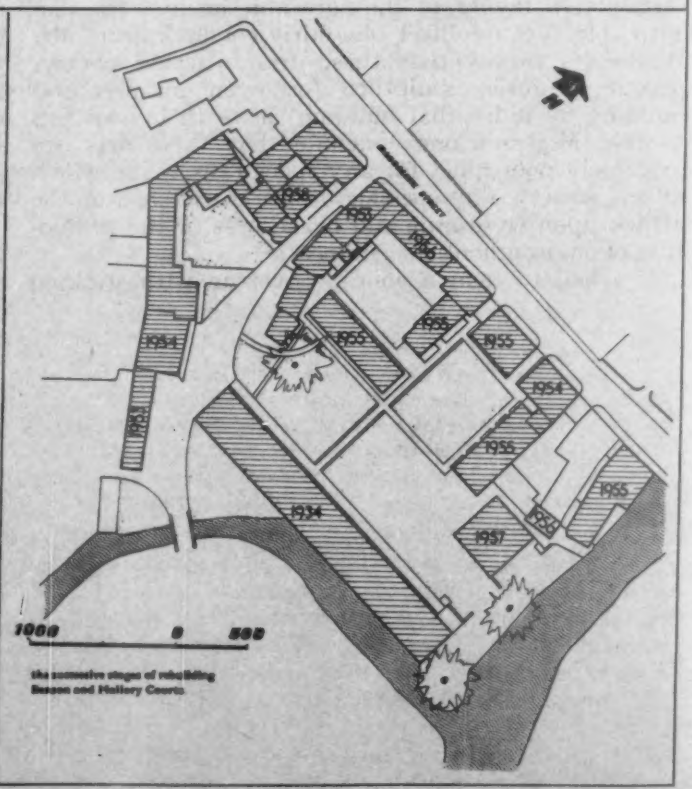
No specialist, who has to rely on his own strength of mind—and no Utopian—will applaud; but it isn't really or altogether so bad an estate.



In an attempt to provide more accommodation for undergraduates in the centre of Cambridge, two colleges, Magdalene and Clare (pages 382-385) have financed the building of lodging houses which they lease to landladies who run them independently. The Magdalene scheme is a development of the pre-war plan. In 1934 Sir Edwin Lutyens built Benson Court on the west side of the site and it was then intended to complete the court with three similar buildings. The present scheme has retained and restored many of the old cottages and the shops in Magdalene Street which are among the few remaining domestic buildings of old Cambridge, and has linked them with lawns and pedestrian walks, and with two new buildings, to form a series of intimate courts and precincts. The entire scheme, except for the River Building, was agreed with the College authorities before any work was started. The drawing above, prepared in the architect's office, shows the new buildings and conversions, illustrated in detail on the following pages, in the style of old engravings of the College.



before: Benson and Mallory Courts in 1934
buildings which were demolished are shaded



the successive stages of rebuilding
Benson and Mallory Courts

LODGING HOUSES FOR

MAGDALENE COLLEGE, CAMBRIDGE

ARCHITECT	**DAVID ROBERTS**
associate architects	**Christopher Grillet and Geoffrey Clarke**

1

1, the River Building from the bank of the Cam, with the converted boathouse beyond. The River Building is faced with buff bricks and the projecting bays are of white-painted weatherboarding.
2, the same view as above before reconstruction.

2

The old buildings have white painted walls and grey woodwork. The New Building on the east side of Benson Court, and the River Building are of load bearing brick cross-wall construction with buff facing bricks and white painted woodwork. This construction, together with very thick concrete floors, provides the quiet necessary for study. Each set of rooms has double doors, the outer in pirana pine. The top lit circular staircase in the River Building is of Hornton stone. Each student, whether in the new or converted buildings, has a bedroom and sitting room, and shares bathroom and small kitchen.

3

3, Mallory Cottages, on the south-east side of Mallory Court, converted in 1953.
4, before conversion the buildings were derelict garages and cycle sheds.

after

before

4

5, the vinegar factory (on the right) was converted into students' sets by Butterfield's pupil, Redfern.
6, opposite, the garage adjoining the vinegar factory has now also been converted. The new building on the right was completed in 1955.

before

after

5

7, old shops fronting Magdalene Street, before conversion.
8, looking from the Lutyens building to the back of the Magdalene Street shops.
9, Benson Court, looking across the lawns to the New Building and the converted shops, which now have students' sets on the upper floors.

7

8

before

after

9

10

before

after

10, looking south down Benson Court before conversion, with the Lutyens building on the right.
11, opposite, Benson Court today, with the River Building in the background and the tower of St. John's College chapel beyond.

6

11

LODGING HOUSES FOR

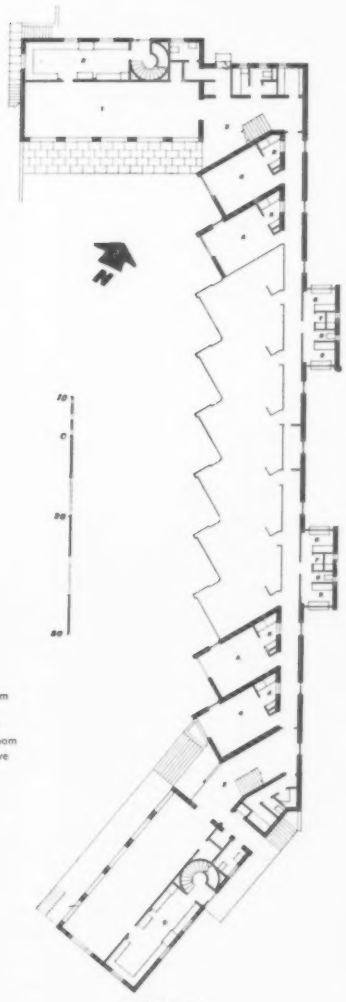
CLARE COLLEGE, CAMBRIDGE

ARCHITECT	***DAVID ROBERTS***
associate architects	***Christopher Grillet and Geoffrey Clarke***

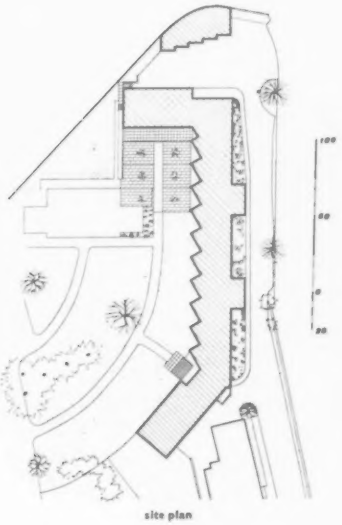
12, the lodging houses from the south, with one of the breakfast rooms and housekeepers' flats on the right.

Although this appears to be one building, to avoid lon corridors and an institutional atmosphere, it is in fac divided into two lodging houses by a party wall. Eac house has its own breakfast room with a housekeeper flat above.

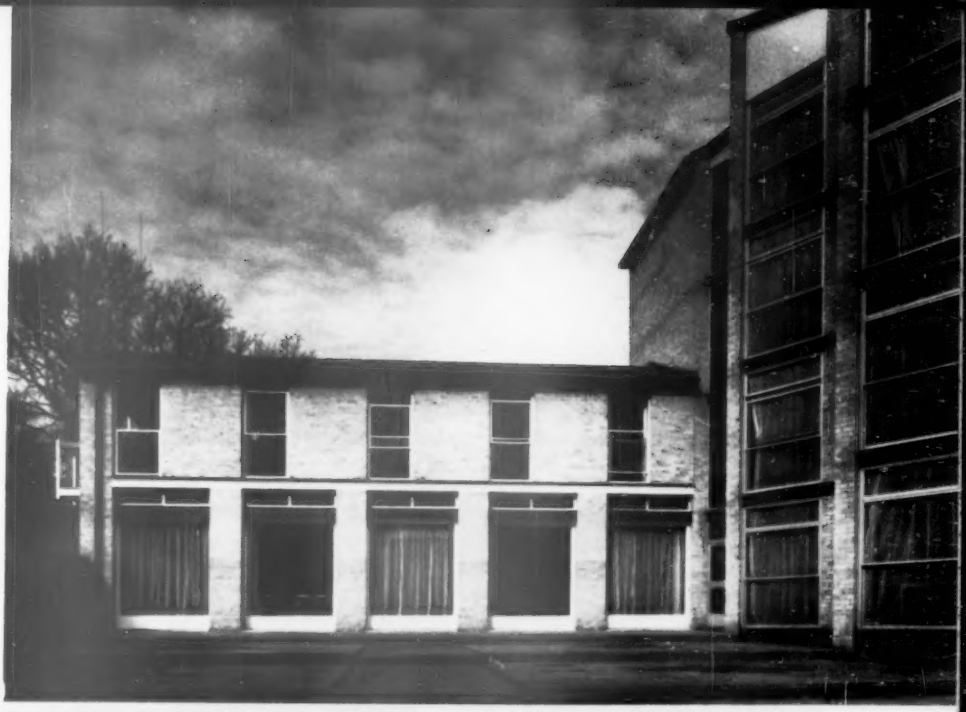
The site, which slopes steeply to the south, is set bac from the road, and contains several old houses whic



ground floor plan



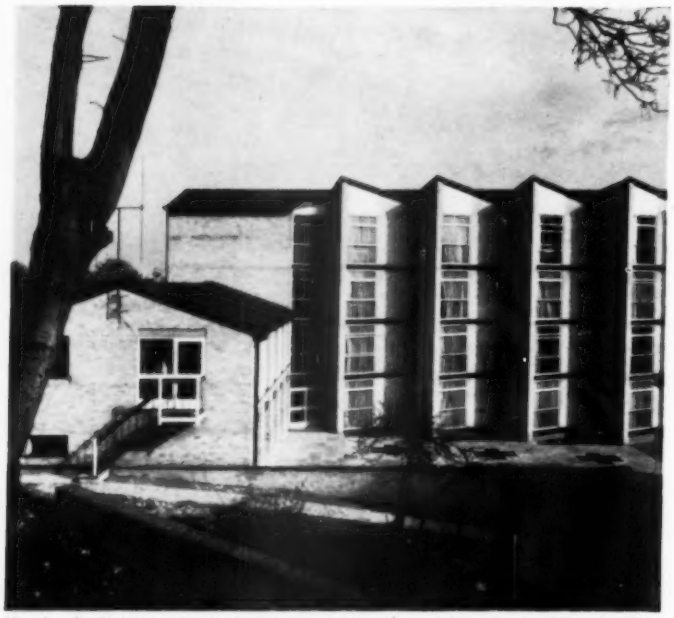
site plan



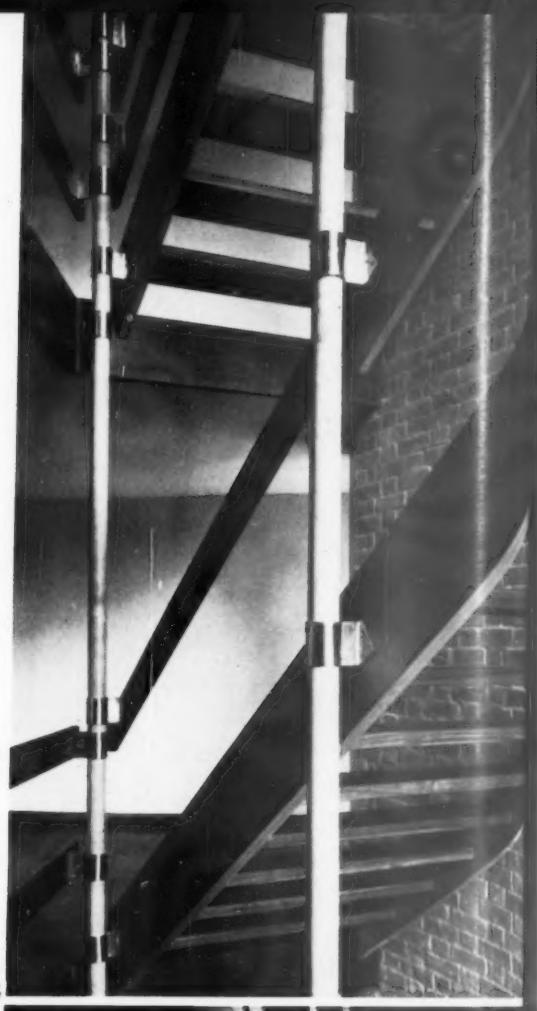
13

14

13, the north breakfast room with housekeeper's flat above.
14, the main building from the north, with projecting towers housing bathrooms and showers. The facing bricks are light yellow.



15, the bed-sitting room block from the top of the Castle Mound. The serrated façade gives each room a view to the colleges across the river.



17

have also been converted into sets. The building runs across the north east of the site and the serrated south east wall gives each bed-sitting room a view across Magdalene College to the river and St. John's and King's Colleges beyond. Access corridors are on the north, with bathrooms and kitchens in projecting towers. A new road will later run along this side of the building. The construction is of load bearing brickwork with concrete floors covered with cork tiles. Each bed-sitting room has an alcove for storing

16

16, the return walls of the bed-sitting rooms are of unrelieved brickwork.
17, the staircase in the north block has treads and handrails of American walnut. The poles are of elm, held by brass clips.
18, the south staircase. Landing and corridor floors are of cork tiles.

18

clothes, and every five rooms share a bathroom, showers, w.c.'s and a small kitchen. The breakfast rooms are also used for meetings and dances and have polished wood block floors. The housekeepers' flats communicate directly with the first floor of the main buildings.

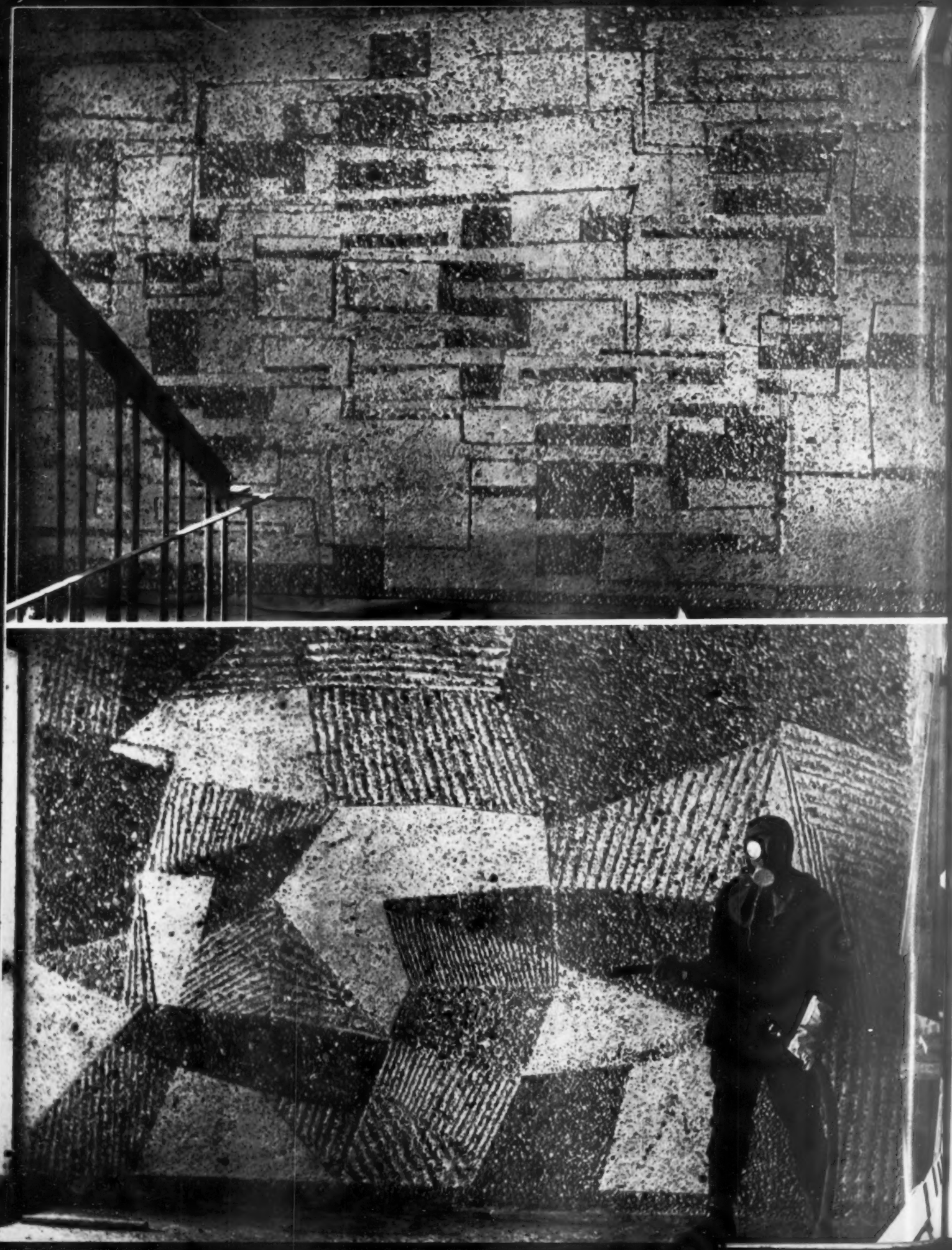
19

20

21

19, a typical bed-sitting room. The door leads into an alcove with basin, wardrobe and trunk rack.
20, upper floor corridor. The rooms have two doors with a small lobby between, to give quiet. The small window lights the washing alcove.
21, interior of the south breakfast room.
22, the north breakfast room.

22



The legend of concrete as the smooth white material of the Machine Aesthetic is dead, and architects are facing up to its true nature as an agglomerate. In the article below, the variety of possible surfaces for exposed concrete is considered and illustrated, from the roughness of beton brut *to the sophistication of sand-blasted* Naturbetong, *seen opposite in two decorative panels executed by Carl Nesjar in a recent office block in Oslo; the upper panel designed by Odd Tandberg, the lower by Nesjar himself.*

John Eastwick-Field and John Stillman

OUT OF THE FORM

To leave concrete unfinished is the latest vogue. It is not a new artifice—Corbusier, amongst others, has frequently shown that exposed concrete surfaces can have useful aesthetic qualities; qualities alien to, but not less valid than, those which derive from the refinement which generations of architects have sought. It is a matter for conjecture whether the current fashion results from Corbusier's exploitation of the visual qualities of concrete or from an appreciation of the less self-conscious character which it has when used in large engineering projects, where for purely practical reasons it is left exposed. It is questionable too whether when taken out of the context of Mexico and Marseilles, and used somewhat haphazardly in less exuberant buildings (and in a dirty climate) untreated concrete will maintain the intellectual appeal it has at present.

Those, however, who see in exposed concrete an opportunity to express in one material the formal and the tactile characteristics of their buildings (as in the Conference Hall at Unesco in Paris) will not be so concerned if the weathered concrete is not itself of particular beauty; directness of expression means more than any satisfaction which may be derived from clothing the structure in superficially pleasing materials. It has become important to be aware of the form of the building and the material of which it is made as much from the inside as from the outside; so that it becomes possible to recognize simultaneously the nature of the material, the shape of the building and the means by which the shape is achieved.

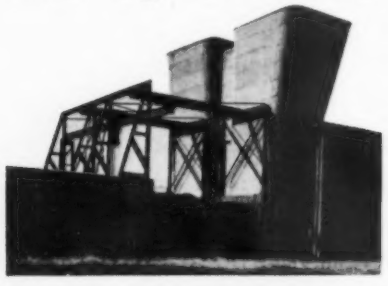
Throughout history one can find examples of rough 'external' materials, such as brick and stone used internally. Japanese houses, which are a current source of inspiration, are themselves a good example of the continuity of materials and ordered patterns from the interior to the exterior. Broadly speaking, however, external materials used in

this way have been frowned upon; and even in modern buildings internally exposed brickwork has been considered rude and uncompromising, whilst concrete has been thought positively shocking.

Perhaps there is something about concrete which sets it apart from other materials. It may, of course, have many kinds of surface, but whatever they may be the lay mind thinks of concrete as a rough blotchy material of dreary colour which is best kept out of sight. It happens, however, that just because of the difficulty of producing a satisfactory smooth concrete, architects have exploited and accentuated the very characteristics which constitute part of the common dislike of it: that is, they have exaggerated what would normally be considered defects, or poor workmanship, such as the rough imprint of the wood, irregular edges, ridges from the joints, blow holes, and what the site knows as 'gravy' spreading from one lift to the next: or less drastically they have made use of shutter boards merely to produce a marked pattern of lines.

To invoke such eccentricities is a revolt against the characterlessness of so much plain smooth concrete, and an attempt to make a virtue of imperfections; but it is also a romantic use of concrete, one that appeals because of the associations it has with a recognizable material and a familiar scale—the wooden board—but which ignores the aspirations of most engineers and of technologists who aim to produce concrete as smooth as possible.

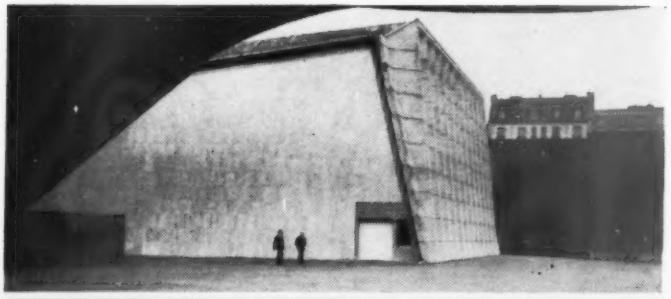
There are, in fact, examples of concrete made with an exceptional degree of smoothness which by eliminating complications of surface texture give added meaning to the forms they create. The pilotis in Niemeyer's Hansa flats, 22, would not make the same impact unless they possessed this pebble-smooth quality. Such a finish can, however, only be achieved by taking very special care, and in ordinary circumstances large areas specified 'fair face' would be marred by the defects which we have referred to: by unevenness between lifts and the variations in density which cause ugly weathering. If, however, smooth regular concrete could be made economically without limitations of size, there might be less argument for the current aesthetic idea of the concrete wall 'as found'—which implies the reproduction of rough board shuttering. There would at any rate be new aesthetic possibilities to investigate. By way of an example of smooth concrete there are the precise facing panels by Aalto in his Hansa flats. The surface of the panels, which are about 3 ft. by 2 ft. in size, is without blemish except for some slight crazing, and was attained by casting on glass. The colour of the panels is a uniform pale brown, and the joints between the panels, which read as black lines, together with the smooth face of the slabs, combine to make an impression not usually associated with concrete. Admittedly, the effect relies very much on the existence of the joints, but the surface of the actual concrete should be compared with the in situ concrete in



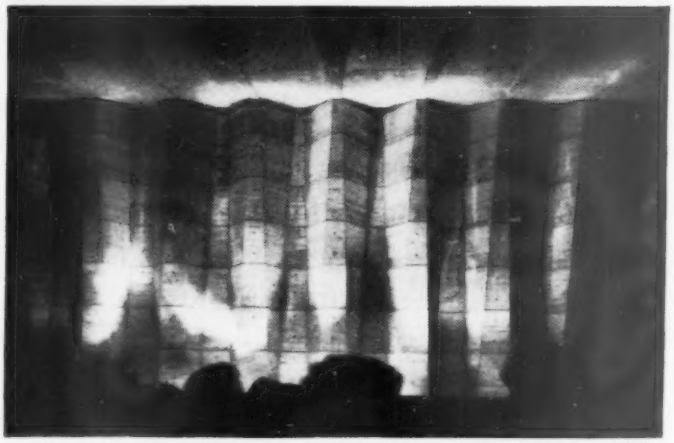
1

2

1 and 2, in industrial buildings there is an established tradition, now more than half a century old, of leaving concrete strictly as found when the shuttering is removed. 1, *Rothes Colliery* (1952) *by Egon Riss;* 2, *Croydon B power-station.*



3



4

3 and 4, the interior and exterior surfaces of the main concrete structure of the Congress Hall of the Unesco Building in Paris (Breuer, Nervi and Zehrfuss) are identical; though not attractive in itself, this mildly-imperfect surface of exposed concrete goes well with the hall's structural feeling.

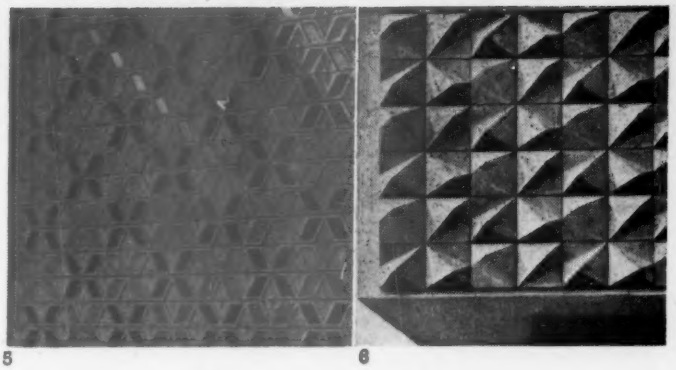
Otto Senn's block, 16, 17, on the same site, where an attempt has been made to produce a smooth concrete by ordinary techniques. Fair face concrete of this kind has neither the subtlety of Aalto's slabs nor the ruggedness of, for instance, some of the detailing at Ronchamp, 27.

So far, indeed, we do not appear to have been able to produce smooth in situ walls which do not in the course of time acquire a look of dereliction, which only painting seems to overcome, 23. Generally, too, the fear of staining and crazing still exists and the recollection of the starved effect that erosion gives to poor quality concrete—exemplified in those weary yellowing fence posts with their rusty reinforcement with which we are all familiar.

It is because they have been aware of the drabness which they might create that architects have tried to give life and colour to a material they knew would inevitably become part of the vocabulary of building. The least complicated departure from so-called 'fair face' concrete is the conscious choosing and disposing of the formwork to which we have already referred. This produces a pattern, whose size the architect may determine, for whatever sense of scale he wishes to create, but the colour and the texture of the surface, except for such texture as is given by unwrot boards, remains unaltered. Corbusier's design for flats in Berlin has two examples of this disciplining of the shuttering, each with its own emotional stimulus; the one human in scale, personal; the other remote but subordinated to and in relation with the total mass of the structure, 24.

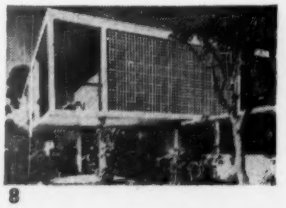
The next step is to give the shuttering a function beyond the primary one of containing the wet mixed concrete, however consciously the natural pattern which is produced by the shuttering may be ordered, and to construct it so as to create an artificial design: that is one made by adding fillets to give recesses or by using a material which is itself patterned, such as reeded hardboard, corrugated asbestos, embossed sheets of plastic or rubber; or, at the last, by sculpting shapes to form a mould from which the concrete emerges as if carved in bas-relief. Incidental accents, whether they be representations, or abstractions, 31, can be cast in situ, but repeating patterns that rely on deep cut moulded shapes are by nature more easily made in precast panels than in situ, and probably because such precast panels are well suited to modern construction they are exciting architects' interest, 5-8.

One of the characteristics of deeply moulded slabs with repeating patterns, 9, is the facility they give to disguise the joints between them and in so doing to reduce the scale, an effect which some designers purposely strive for, but which others consider to be a lost opportunity of expressing the nature of the construction (that is, the employment of large prefabricated panels). Slabs designed with broad patterns, such as those in the Rhein-Main Hall at Wiesbaden, 6, are an altogether bolder experiment, but they are spoiled if they are contained within a framework of beam and columns, especially if the bays and the pattern compete for attention. A simple repeating design can create a lively texture over the whole wall of a building, but complicated designs in which one pattern appears to overlay another cause distraction

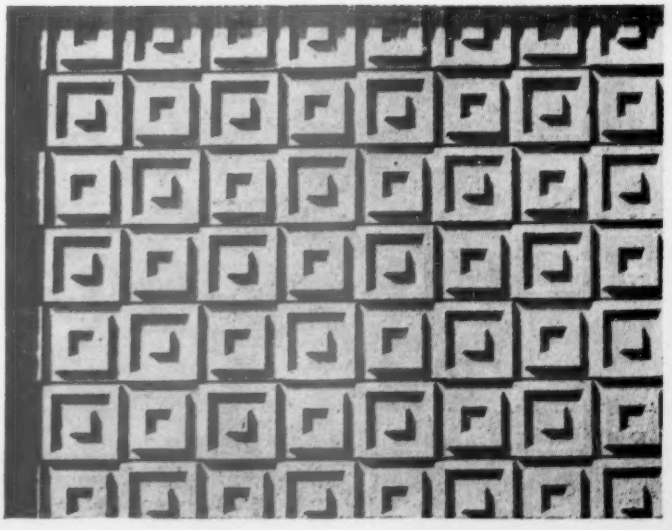


5 6

7

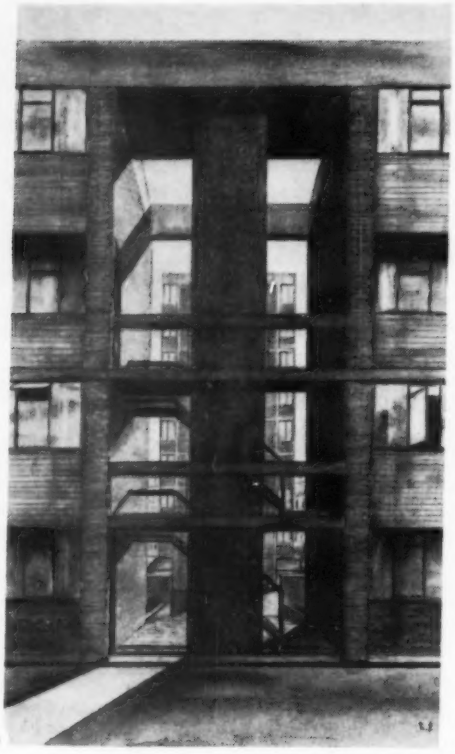


8



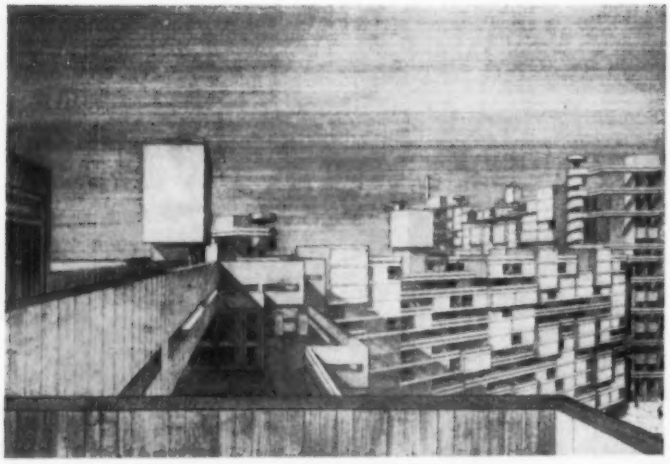
9

Profiled, pre-cast slabs or grilles of concrete enjoy the advantages of controlled, factory finishes, while the patterns of repeats are usually strong enough to absorb weathering effects. Their use is world-wide, and the examples here are from: 5 and 9, schools in Essex by Johns, Slater and Haward; 6, the Rhein-Main Hall, Wiesbaden; 7, parking garage in America, walled in pre-cast slats. 8, Oswaldo Bratke's house, Sao Paolo, with grilles of pre-cast units.



10

10 and 11, the abandonment of the idea of concrete as a smooth material, and an appreciation of its brut *qualities can be seen even in architects' rendered perspectives. Here,* 10, *is a drawing made in the authors' office by R. Smorczewski, and* 11 *is a fourth-year student project from the Architectural Association (Dalton, Eardley, Fraser and Knott).*



11

12

12, while weather-stained raw concrete may be unattractive in itself, it can form a sympathetic background to the sculptural forms of trees, or even sculpture, as in this detail from a garden by Juan Sordo Madaleno.

and inhibit recognition of the form of the building of which they are part.

Whatever the merit of expressing particular arrangements of shuttering or of constructing it to form patterns in relief—and there are those who argue that only these techniques result in the true expression of the nature of concrete—there are, of course, a number of other means of mitigating what have to date been considered the objectionable characteristics of plain concrete and most of them are of older origin than the techniques we have been discussing. If one excludes painting, each relies on changing the nature of the surface of the concrete by removing in one way or another the cement matrix which is ordinarily what one sees, and which conceals the stones of which the concrete is made. If it is necessary to have an ethical justification for everything that one does, it can be said that in fact *these* techniques represent concrete in its true state, since by using them the aggregate which forms the bulk of the material is revealed. No one seems to argue that timber is any less natural when the bark is removed ! Processes for revealing the aggregates in concrete are, however, laborious and expensive, and this probably colours one's evaluation of the results.

The most familiar technique (although one that is not much used) is 'bush hammering': a process of breaking away the surface to a greater or lesser extent with a mechanical hammer. The scale of the indentations can be varied by the shape and size of the head; and a further variation (tooling) can be obtained by using a pointed rather than a blunt head. The texture and particularly the colour of the surfaces will further depend on the kind of stone and cement of which the concrete is made. More often than not the most economic aggregates are natural sands and gravels, and these produce a rather dreary brown effect. There may be other aggregates in certain areas which are no more expensive, which could be chosen so as to obtain more interesting colours. The likelihood is, however, that special coloured aggregates will be considerably more expensive, and in order to minimize the cost of the concrete work as a whole, methods of using sliding shutters have been devised to limit the special aggregates to an outside layer only. This produces a veneer, subject to the abuse of using exotically coloured cements and aggregates which bear no relation to the character of the original concrete, though masquerading as part of it: a procedure which seems less acceptable in relation to concrete having an obvious structural function, than in relation to precast slabs used as cladding.

One difficulty with bush hammering is that the corners must either be left with a margin of unhammered concrete or must be accepted with ill-defined edges. Both these characteristics take away from all but massive piers and other large areas of concrete the sense of strength which one expects from structural members. The Congress Hall in Berlin contains examples of several different concrete finishes, and amongst them, bush hammering. The massive buttresses are smooth, though patterned by the shutter boards, but in contrast the internal columns are textured by hammering: irregularities are eliminated and the scale of the finish is reduced. Because the columns are circular and so avoid the

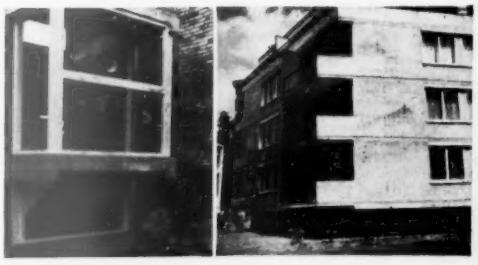
[*continued on page 897*

13

13, *apart from permanent weather-staining, discoloration due to damp in rainy weather is another deleterious visual effect, as this wet-day detail from the Unesco building shows.*

14, *but permanent or temporary, staining seems best combated by a pronounced texture on the right scale, and this is one of the basic justifications of board-shuttered* beton brut, *exemplified here by a detail from a work of the master of such surfaces, Le Corbusier himself.*

14



15, 16

15, **16**, **17** *and* **18**, *comparisons of the use of fair-face and* beton brut *surfaces under conditions of normal craftsmanship can be made between Stirling and Gowan's Ham Common Flats,* **15**, *and Otto Senn's block at Berlin, Hansa,* **18**. *Although Ham Common is not all concrete-faced, as is Senn's block, the amounts of concrete exposed there are still visually significant. But as the details show, the degree of imperfection that mars the intended effect of Senn's fair-face work,* **17**, *is easily absorbed by the rough shuttered texture,* **18**, *favoured by Stirling and Gowan.*

17

18

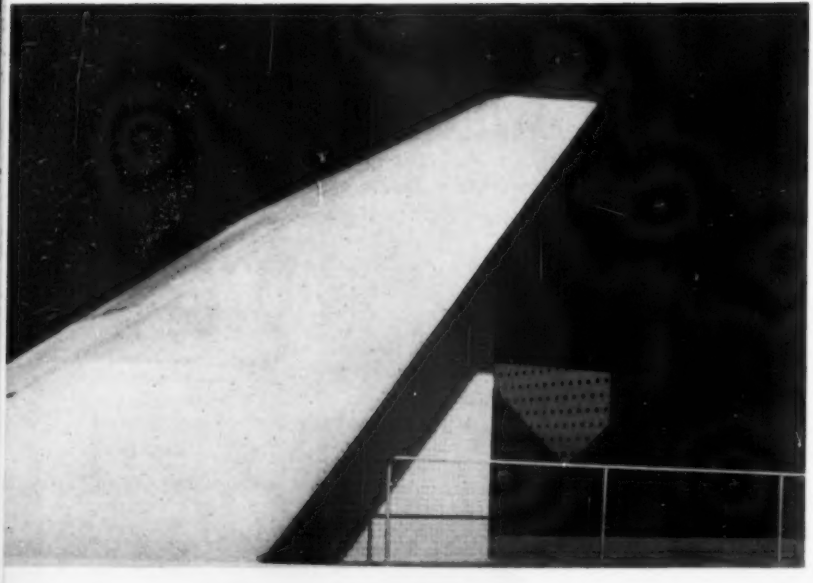
20

19 and 20, the minor imperfections of smooth-shuttered concrete—patchiness and honeycombing—may be tolerable in themselves, as in the close up in 19, but the effect of the class of workmanship, materials and techniques that produces them, when spread over a whole structure, as in Hans Schwippert's tower block at Berlin's Hansa quarter, 20, can create an untidiness of surface that argues with the architect's intentions in calling for smooth fair-facing, even where he has hedged his bet by providing a pattern of storey-high panel repeats.

19

21

OUT OF THE FORM



22

21 and 22, the antidotes to this situation seem to be two—to make the apparent panels into real panels, as in Aalto's Hansa flats, 21, where the surfaces are smooth, and any irregularities are localized in one panel at a time. The other solution, epitomized in the superb finish of the pilotis to Oscar Niemeyer's flats at Hansa, 22, is to take great and uneconomic care over workmanship, choice of cement samples, even choice of cement colour.

23

23, painting may help to conceal irregularities of fairface concrete, but only vagaries of discoloration. As this raking view up the wall of the Seegmann and Muller-Reem block at Hansa shows, vagaries of form still register.

24 and 25. Since it is almost impossible to get perfectly smooth concrete direct from the shuttering, it may be better to let the shuttering impose a pattern on the concrete surface: 24 shows a metal-shuttered pattern from Le Corbusier's Unité Type Berlin, *25, a plank shuttered pattern used by Hugh Stubbins on his Berlin Congress Hall, as both interior and exterior surfaces.*

26 and 27, The variety of surface obtainable even from the same basic shuttering technique is notable. On the surface of the pilotis of Unesco it does little more, 26, than acknowledge that wood was used, but round the pool at Ronchamp, 27, it boasts the fact so aggressively that it almost looks like a plank fence.

25

24

26

27

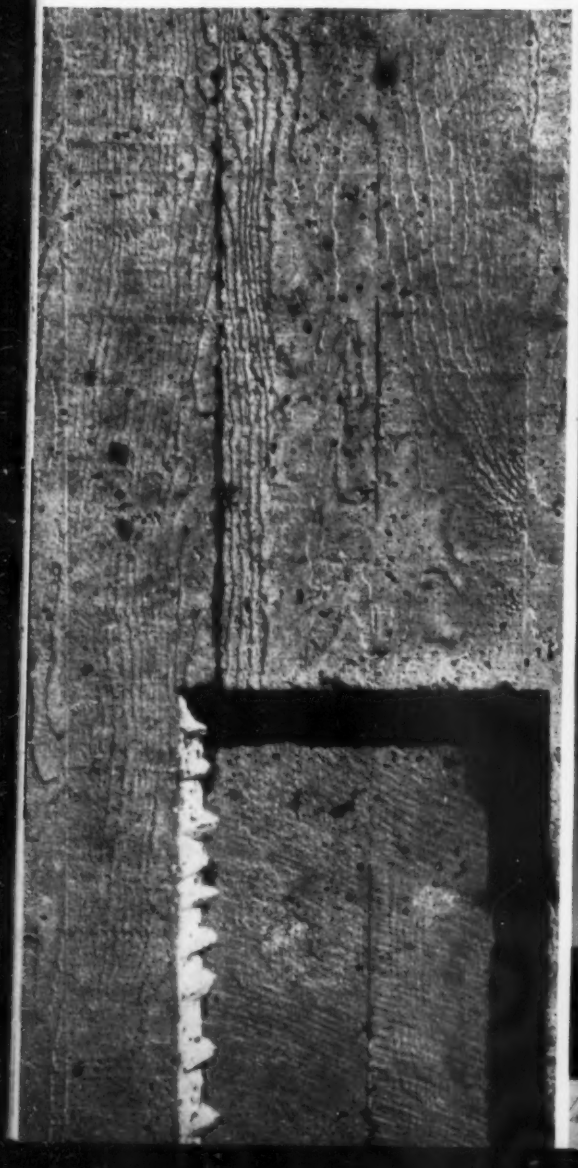
28

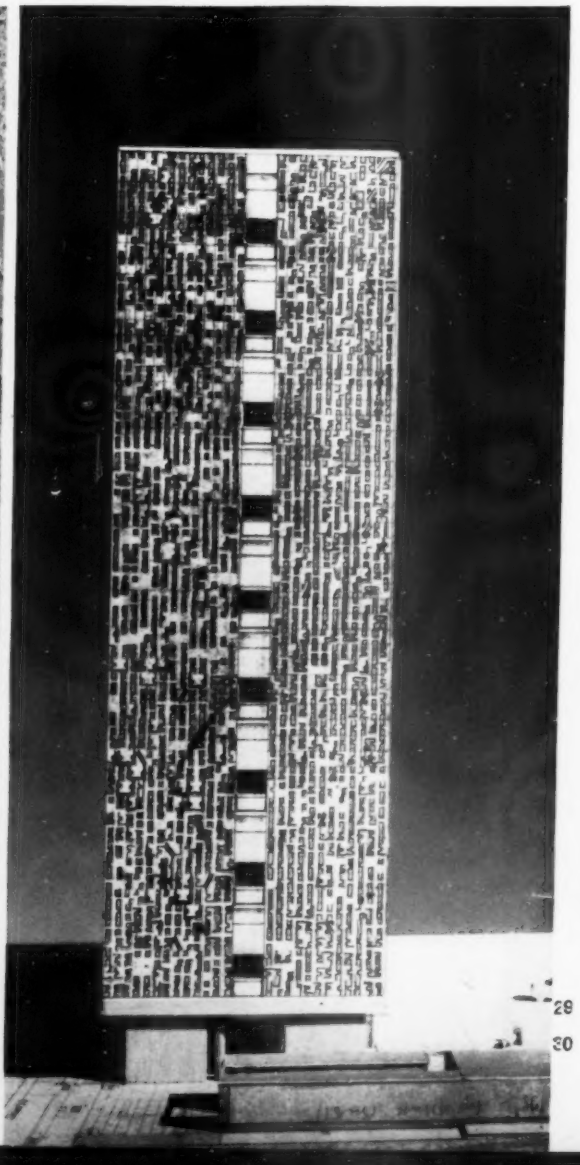
31

28, 29 and 30. *Once a consciously modulated surface is accepted, then there is scope for creative talents outside the architectural profession to come to the aid of concrete.* 28 *shows prototype cladding panels designed for the LCC's Tidey Street Scheme by Mitchell and Hollaway (see also cover to this issue),* 29 *shows the type of surface it is proposed to use in practice, and* 30 *the effect of the panels when applied to the end wall of a 19-storey block.*

32

31 *and* 32, *other experimental moulded surfaces created by Anthony Hollaway and William Mitchell.*





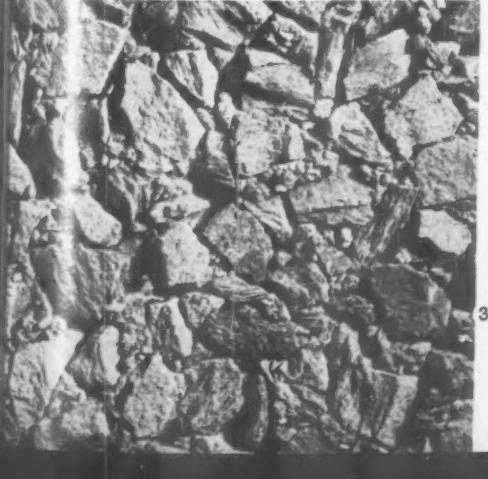
29

30

33

34

35



36

OUT OF THE FORM

33 to 36, varieties of finish obtained by the use of exposed aggregates selected for their characteristic textures. 33, Norwegian quartz, white and translucent, in white cement; 34, the same in grey cement; 35, Cornish Delank; 36, green Westmorland Slate; all at about half natural size.

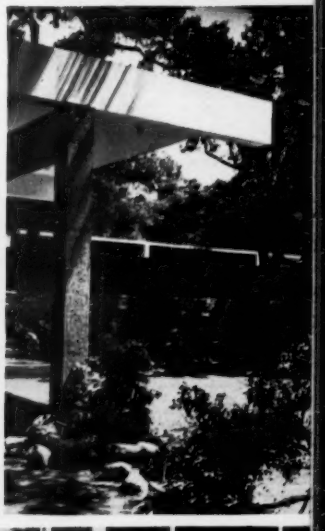
37 and 39, bush-hammered surfaces afford one of the richest-looking concrete treatments currently available, exemplified in 37 by one of the columns of Hugh Stubbins Conference Hall in Berlin. Where, however, the surface to be bush-hammered comes to a sharp arris, a margin must be left to prevent the corner spalling off, creating a characteristic effect, seen in 39, on a column from Richard Neutra's Warren Tremaine House.

38, where the resultant texture is lively enough, and the form strong enough to override the variations of degree of exposure of the aggregate, bold use can be made, as in this wall at the Interbau site, of really large areas of exposed aggregate.

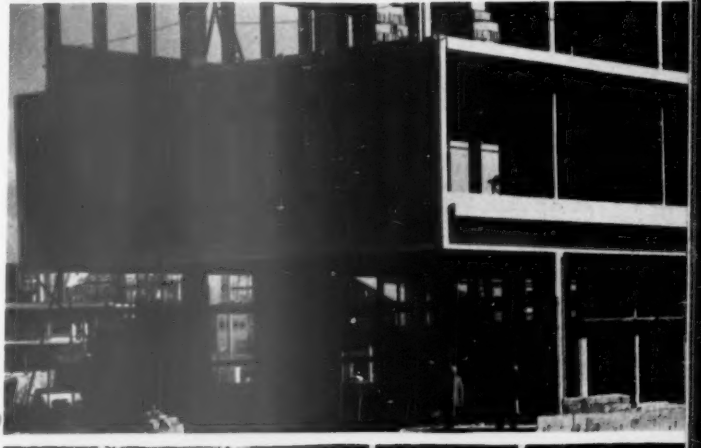
40 and 41, the optimum control of exposed aggregate is obtained on precast slabs, whether they are simply cladding, as on Grenfell Baines's office block for Shell at Stanlow, 40, or structural beams, as on the authors' Camden Girls' School, 41, in north-west London.

37

38



39



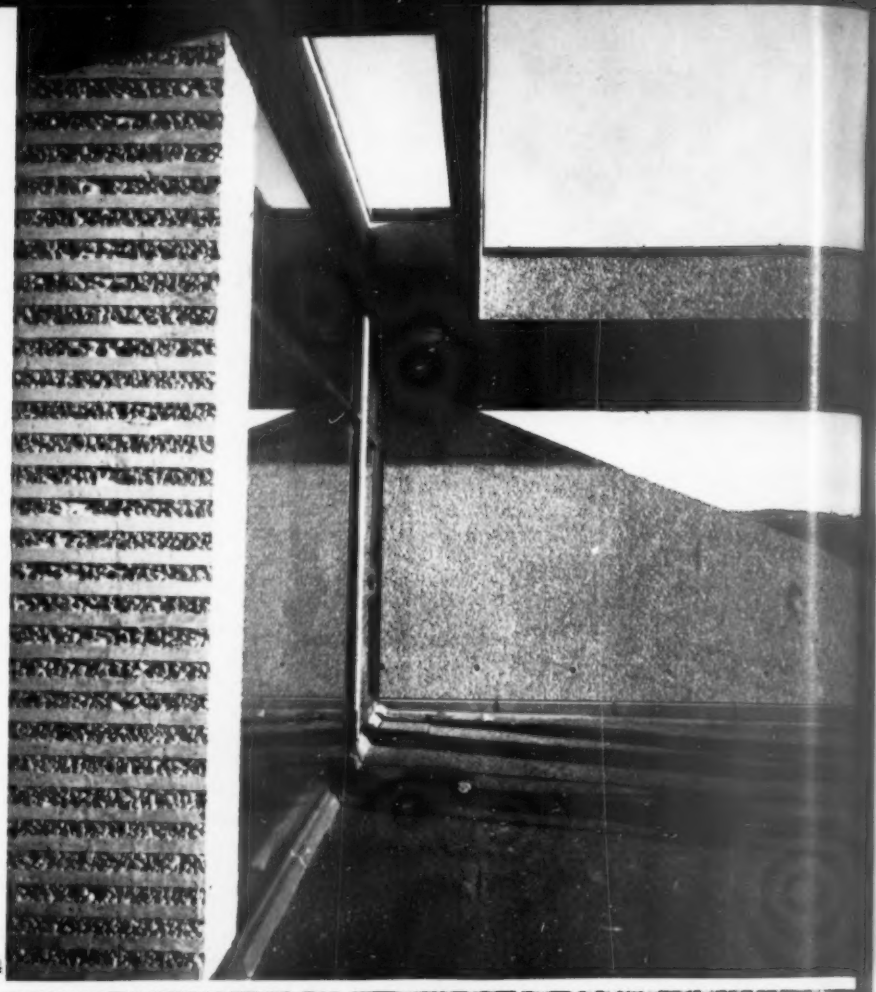
40

41

42

43

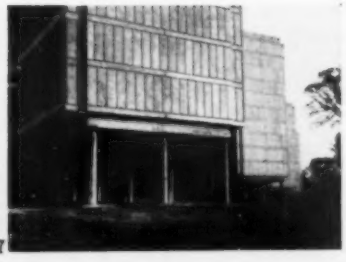
42 and 43. Contrasts in precast wall claddings: 42, storey high slabs going up on FrederickGibberd's Dock Labour Board building; 43, riven precast slabs from Austria. 44 and 45, further examples of naturbetong, *from the same building by Erving Viksjo as in the frontispiece to this article. 45 is a detail from a mural by Sitter.*



41

45

46



47

46 and 47, the triumph of exposed concrete, epitomized in the all-concrete aesthetic of the LCC's Roehampton Estate: 46, detail of the boiler-house; 47, pilotis and slab-clad end wall of one of the 'little Unités.'

continued from page 390]

'panel' effect usually associated with bush hammering, they still convey a feeling of strength and remain integrated with the structure. The texture of these columns can be seen in 37, the colour is a silver grey: neither could have been achieved without very careful workmanship and special choice of materials, but given these, the resulting finish is one which needs no apology—even from those who seek refinement or who doubt that concrete can be used internally. A quite different sensation is derived from the square post and beam in the Warren Tremaine house, California, designed by Neutra, 39. There is here no wish to give dominance to an appreciation of the structure: instead a number of differently textured elements are consciously juxtaposed to create visual excitement. The finish on the concrete post, which in point of fact is here achieved by sandblasting (a technique which also requires margins) can be admitted for its contribution to a decorative pattern of textures.

From time to time other less laborious techniques have been devised to obtain exposure of the aggregate: chemical retardants, the wire-brushing of green concrete and what is known as aggregate transfer, are amongst them. Even these are, however, difficult to execute in-situ.

For a long time designers have tried to develop walling units which would enable them to make use of the advantages of dry construction and of the handling capacity of cranes. Concrete has always been relatively cheap and is fire-resistant: and when properly made is reasonably proof against the attacks of the weather—though, as we have said, not all accept the effect it has on the visual qualities of the surface. It was, therefore, an obvious choice for experiment in new systems of prefabricated construction and especially in the development of relatively large walling panels. The fact that precast panels are conveniently made horizontally enables the top surface to be processed by spraying with water and by other means whilst it is still wet: or, alternatively, the bottom surface to be so arranged as to form an even layer of aggregate which is left exposed on removal from the mould. By these techniques the panel may receive a surface of specially mixed concrete for which the variety of aggregates, in colour, size and grading, and of cements, is wide. One has, however, only to compare the effect of the exposure of an opaque aggregate such as slate with, say, Norwegian quartz, 33, which has an icy translucence to realize that one is now less interested in the material as 'concrete' than in the veneer of broken stone which it supports. Whether you argue that this is or is not a legitimate expression of concrete, at least it does not have the objection of being an imitation of any other material, and in its favour it produces surfaces which have already shown themselves practicable, and which at the same time offer scope for aesthetic experiment.

Out of the heterogeneous clothing of framed buildings, the glass curtain wall has established itself internationally in the last decade as a significant technical and aesthetic expression. In cold and foggy Britain, however, there are arguments in favour of a different expression which is aesthetically valid but which better satisfies the practical requirements. Concrete buildings, clad in concrete, are one such alternative; and occasionally, as at Roehampton, they produce a sense of coherence and of simplicity all too rare in current English architecture.

Because they are large in scale and rough in texture, exposed aggregate panels look as heavy as in fact they probably are; but if concrete clad buildings are more stolid in appearance than glass clad buildings—if they are even ponderous by comparison—it may be that on that account they satisfy not only in fact but also in effect an innate desire for protection from the elements.

Concrete offers possibilities for great inventiveness and an escape from the limiting aesthetic of the glass box. It can provide structure, shape and finish.

1

The glittering network of neon signs, below, which for millions epitomizes Piccadilly Circus, is doomed by the intended demolition of the north side of the circus. How little the secret of their vulgar but vigorous appeal is generally understood can be judged from the pathetic design, LCC approved, on left, which shows what is to replace them. An insipid jigsaw of small signs, unhappily straitjacketed into a rectangular panel, can hardly provide the same gaiety as the full blooded, unfettered riot of signs it replaces. This problem and its architectural implications are discussed in the following pages.

2

Kenneth Browne

Piccadilly Circus

Piccadilly Circus is the symbol of London's gaiety and for millions it as surely represents this aspect of her character as does the Tower of London her history. Yet this symbol is in imminent danger of destruction.

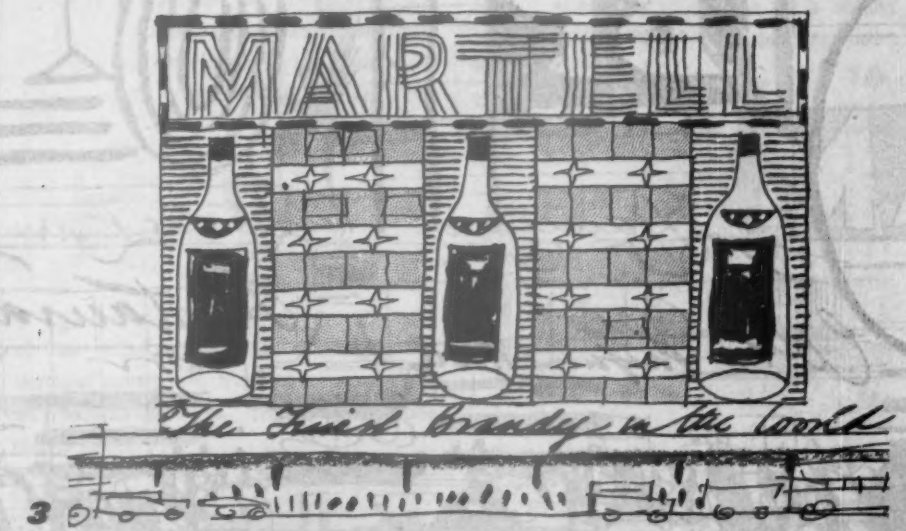
Leases are falling in and a lot of rebuilding is in prospect. The LCC planners are trying to give the plans some coherence and at the same time improve the traffic flow. But in doing so they propose to open up the existing intimate circle into a large, bleak square with Eros, the genius loci and focal point of the present circus, lost at one end of it. Demolition of half the existing buildings surrounding the circus is entailed and with them inevitably the galaxy of neon signs which at night provide the visual magic of the place. This magic owes nothing to the architecture which dissolves in the blaze of lights and is merely the scaffolding for the signs. The buildings will not be missed; the signs will. They must be retained.

Up to a point the planners have realized this, and lip service is paid in the description of the new building* proposed for the Monico site, *1* (facing page), which is 'designed with a comprehensive elevation treatment to receive electric advertising signs.' However, comparing it with what is on the same site now, *2*, it's not hard to see where it will fail. At present you get a real smack in the eye; a sign as big as a building, a bottle as big as a bus and the tracery of lights is continuous. It's vulgar but it's exciting. The proposed scheme is just rationed fun; controlled, co-ordinated, emasculated so that it can neither shock nor thrill. It reflects a guilt complex regarding posters which is quite misplaced here where the atmosphere depends on them. Piccadilly is a special case. Another point: the present effect is achieved by competition not co-ordination—a result of trying to do something more striking than the next chap—bigger and better.

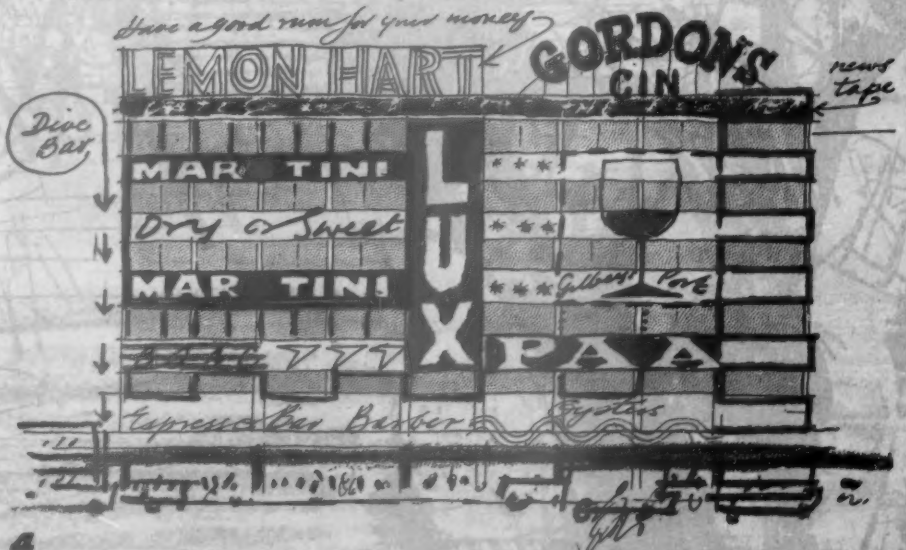
However, the planners are right in one respect; any new buildings here must be designed for advertising—the signs must not be just an afterthought as they are now (hence the daytime clutter of fixings and electrical gear). But it should be taken much further. The advertising should become the architecture and be given priority in the design. How can this be done?

First of all by using whole buildings as signboards, *3* and *4* below. Approached in this way, and without interfering unduly with the rooms inside, all kinds of ingenious designs could be evolved. This forms a challenge to the designer (unlike *1*) and gives an all-over pattern. In the case of *2*, the plan would be like this, with signs (marked by arrows) on projecting bays.

Again, by providing blank end walls with

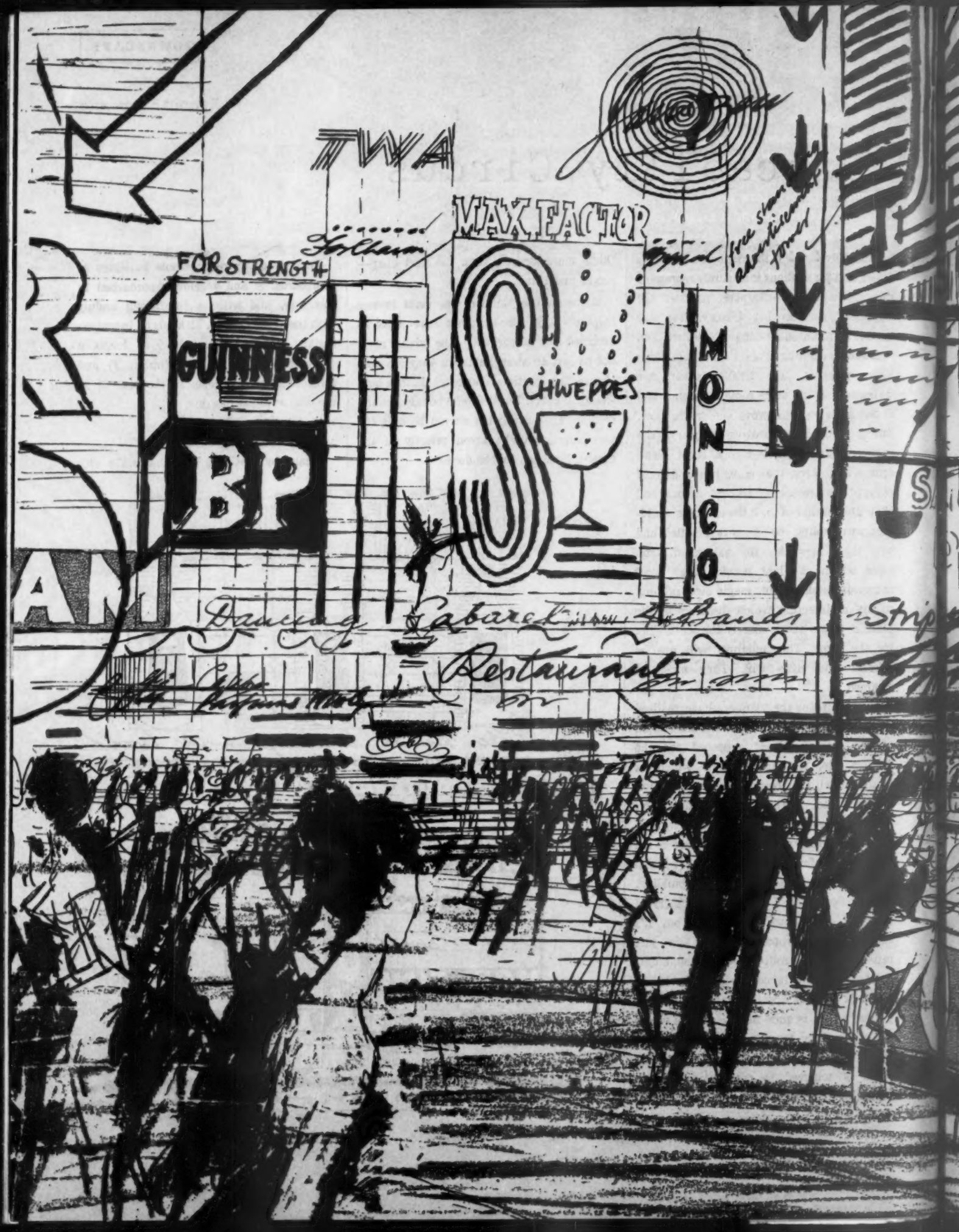


3

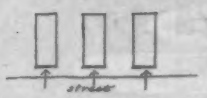


4

* Designed by Cotton, Ballard & Blow. The words quoted are from the press announcement.

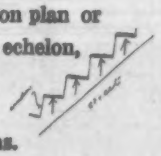

TWA
MAX FACTOR
FOR STRENGTH
GUINNESS
BP
CHIWEPRES
MONICO
Dancing
Cabaret
Bands
Restaurants

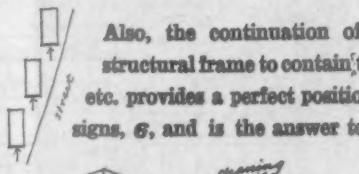
the blocks at right angles to the circus (less noisy anyway) and using them for giant signs, *5*.



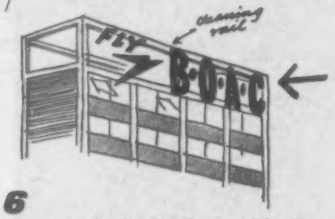
5

By staggering the facade on plan or placing the tall blocks in echelon, buildings leading away from the circus would present a tight wall of signs.





Also, the continuation of the structural frame to contain tanks etc. provides a perfect position for signs, *6*, and is the answer to one



6

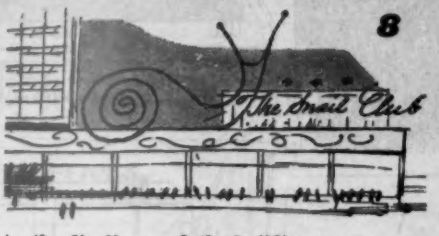
of the principal daytime objections, the cleaning gantry which for signs applied as an afterthought is usually a crude construction, *7*.

7

Transformers (arrowed), wiring and other unsightly apparatus can be housed in the building if considered in the initial design.

An impression of the new Piccadilly Circus as it could be, showing the Monico building on left. One huge sign occupies the whole of a blank end wall, its giant S showing the linear and best use of neon. Guinness and BP are mounted on extensions of the stuctural frame, the use of vertical letters (as 'Monico') is an important element. On left — freestanding advertisement tower.

Flat roofs provide the opportunity for freely shaped designs, *8*, and in the case of restaurants, lettering across the glazing adds



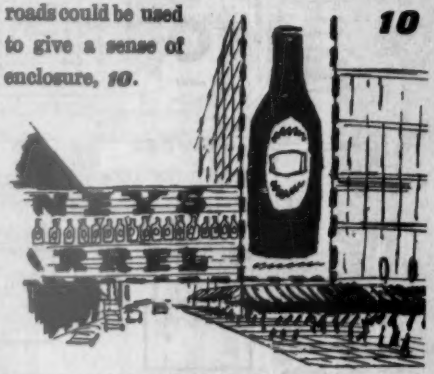
8

to the liveliness of the building, *9*.

Skysigns, previously banned, are now rightly permitted; the 'look no hands' effect is an

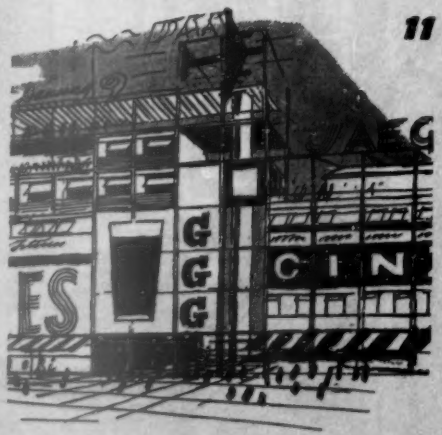
9

important element of the show at night and there is no reason why the framework should not be cleanly designed. It can be done in Holland and Scandinavia, why not here? Multi-storey garages and cinemas are a gift for the advertiser, with blank walls asking for large signs, and advertisements spanning roads could be used to give a sense of enclosure, *10*.

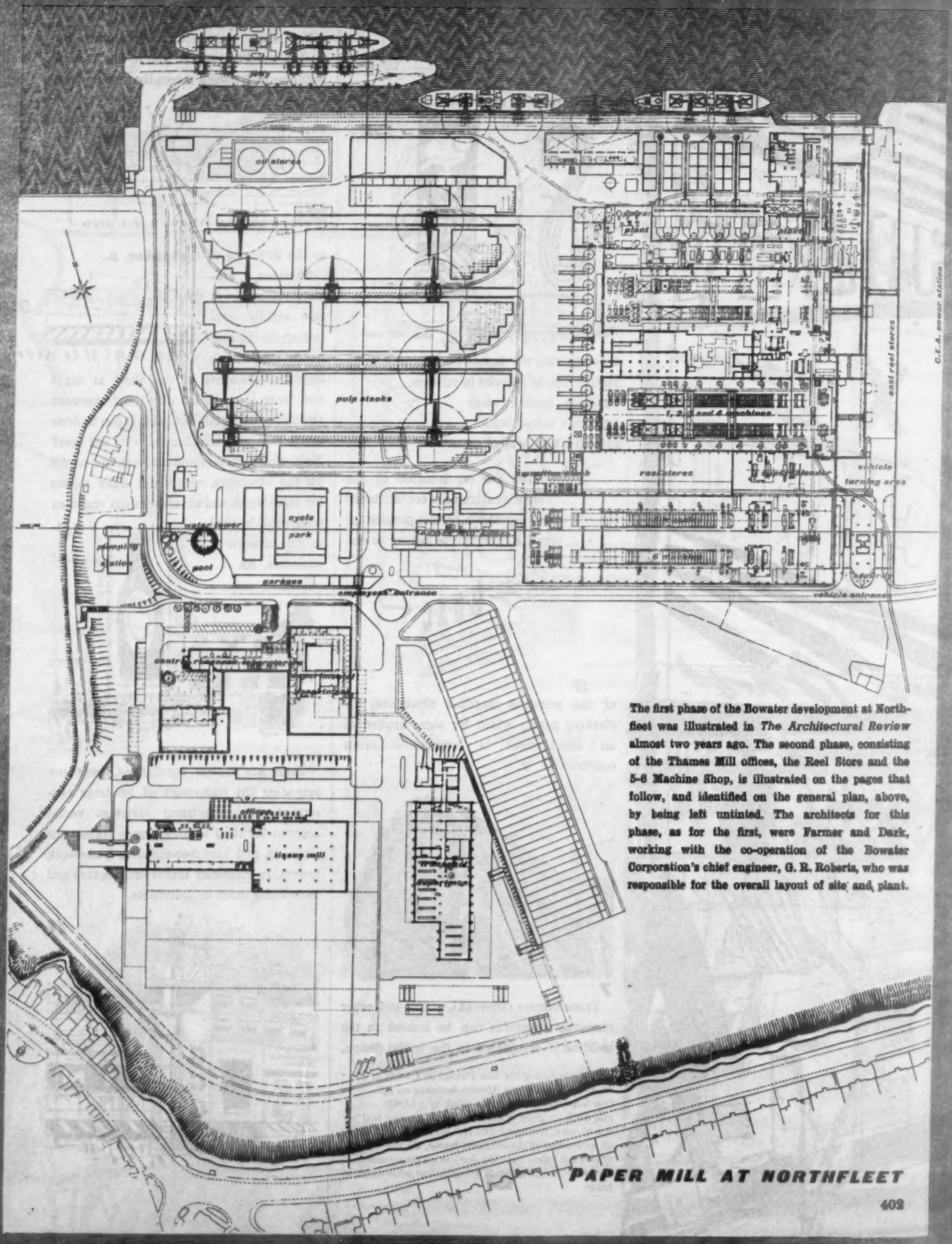


10

There are endless possibilities, including extending the framework of buildings (expensive, but advertising revenues would account for this) to make space frames for signs, *11*, and also free-standing framework towers. In Piccadilly Circus architecture and advertising must be indivisible.



11



The first phase of the Bowater development at Northfleet was illustrated in *The Architectural Review* almost two years ago. The second phase, consisting of the Thames Mill offices, the Reel Store and the 5-6 Machine Shop, is illustrated on the pages that follow, and identified on the general plan, above, by being left untinted. The architects for this phase, as for the first, were Farmer and Dark, working with the co-operation of the Bowater Corporation's chief engineer, G. R. Roberts, who was responsible for the overall layout of site and plant.

PAPER MILL AT NORTHFLEET

PAPER MILL AT NORTHFLEET

MACHINE HOUSE AND OFFICES

ARCHITECTS	***FARMER AND DARK***
partners-in-charge	***Frankland Dark, T. A. Eaton, J. T. Pinion***
chief civil engineer	***S. Jampell***
architects-in-charge	***A. Wightman and R. L. Brewerton***

1, the vehicle entrance with reel store over and machine house beyond. The reel store has directional lighting from the east, with the return faces of the grey-green corrugated sheeting used on the machine house. The fan rooms on the roof of the machine house are faced with aluminium louvres.

2

2, general view from the west, with the water tower in the left foreground and the Thames Division offices and machine shop beyond.
3, the main staircase in the office building. The floor and the treads and risers are of terrazzo, the underside of the stairs is of painted concrete. The balustrading is mild steel with a hardwood handrail.

PAPER MILL AT NORTHFLEET

These buildings are a further stage of the development illustrated in the A.R. November 1957. The site is in an old chalk quarry, but because much of the ground was unreliable the majority of the foundations were piled.

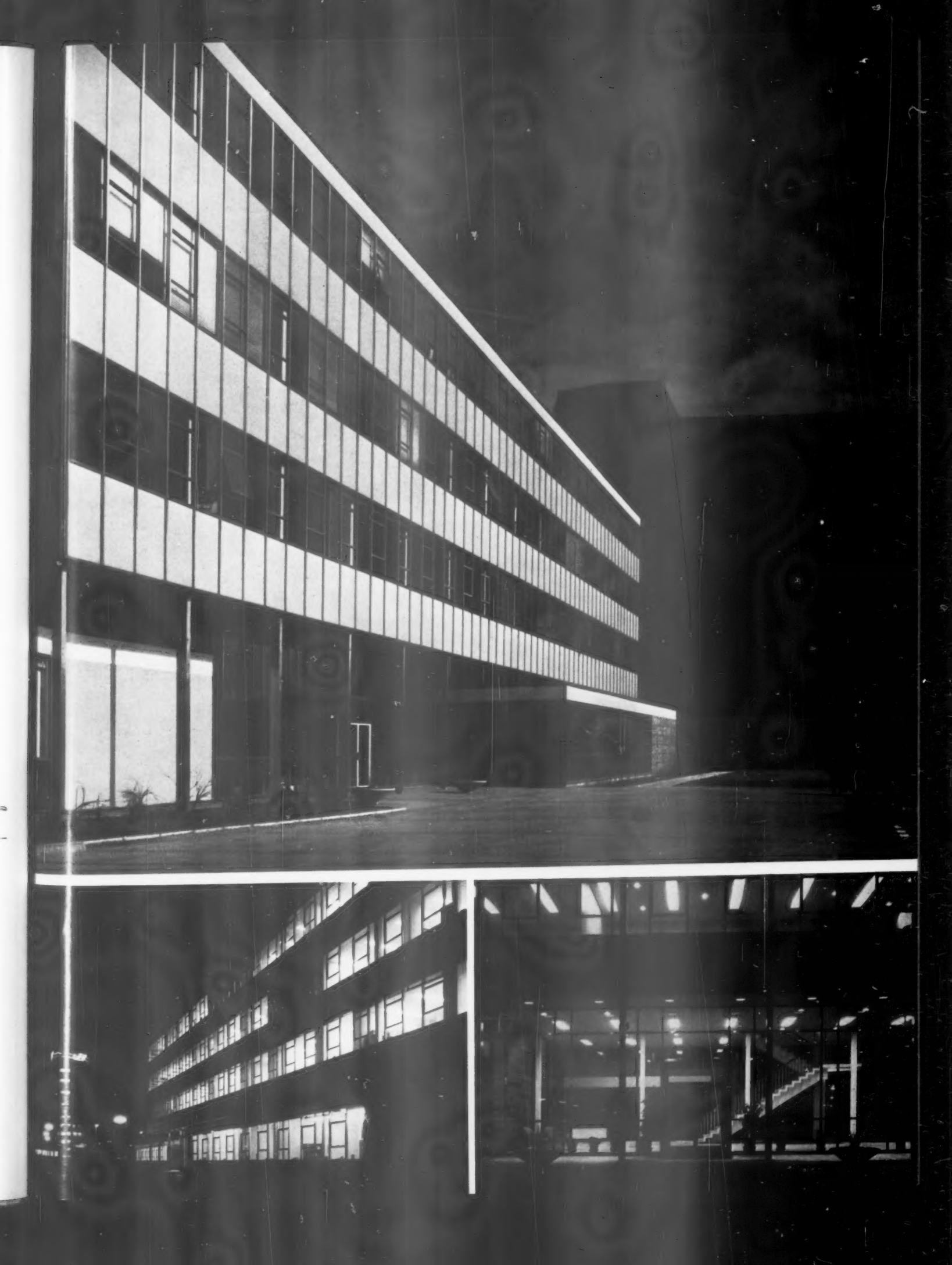
The machine house accommodates two paper-making machines, with storage space beneath at ground level and a reel store for the manufactured paper over the vehicle entrance at the eastern end. Apart from the vehicle entrance, which is of reinforced concrete, a steel frame of normal design was used, with lightweight cladding materials for roofs and walls—built-up bituminous roofing felt on insulating board, or cork and troughed aluminium sheeting for roofs, and grey-green corrugated synthetic resin laminated sheeting and patent glazing for walls. The walls are lined internally with perforated board backed by mineral wool, to give insulation against condensation and noise. The serrated front of the reel store incorporates vertical windows and an illuminated sign to accentuate the principal entrance for goods traffic, all of which approaches from the east.

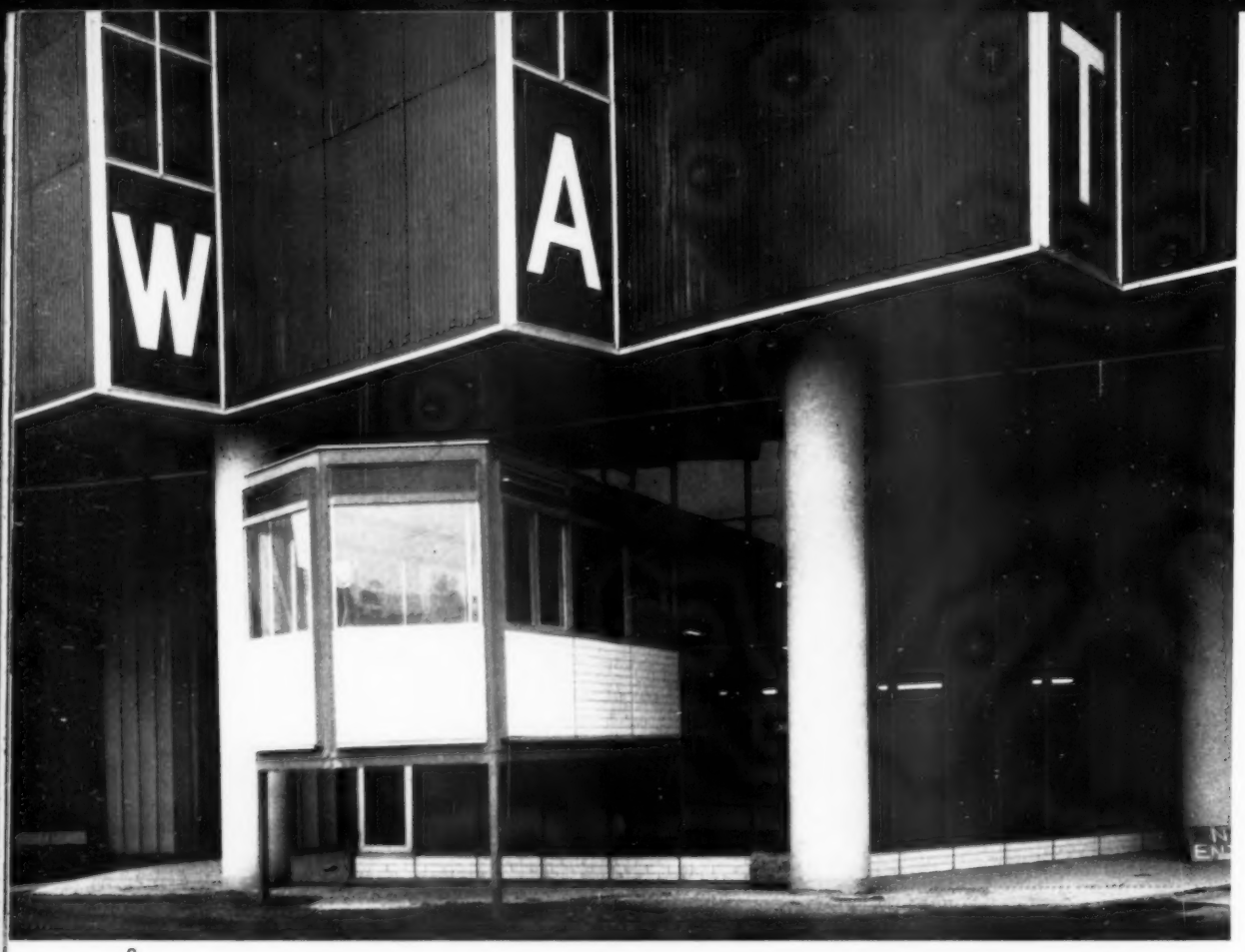
3

5
6 | 7

4

4, general view of the entrance hall, showing the acoustic ceiling with louvred openings to the inset lighting troughs which hold two or more fluorescent tubes. There is an abstract mural, designed by the architects, on the wall behind the staircase.
5, opposite, the south elevation and main entrance to the offices. The stainless steel sheathed wall has opaque white glass panels under the windows and a white glass mosaic fascia. The columns are sheathed in stainless steel and the panel to the left of the entrance is in bright red mosaic. The concrete parking area is broken up by rows of cobbles.
6, opposite, the office building at night, with the water tower beyond.
7, opposite, the entrance at night, showing the even lighting given by the recessed fittings. The wall at the left of the entrance hall is panelled with strips of hardwood.

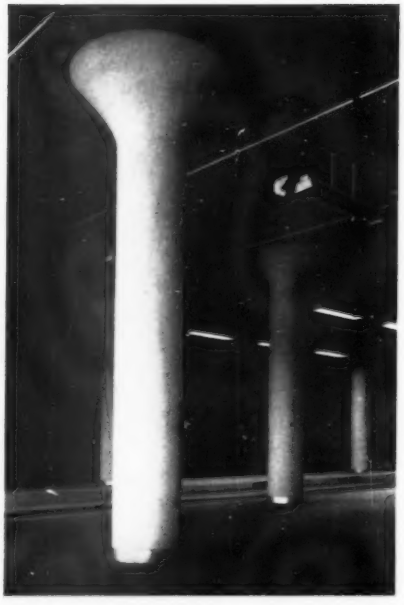




8

PAPER MILL AT NORTHFLEET

The Thames Mill offices accommodate administrative staff and welfare services. The building has a light steel framework with floors of precast units with a structural screed topping. The stainless steel curtain walling has external spandrels of cast glass fired with colour on the inside and solid precast concrete slabs faced with marble chips at ground floor level. The precast concrete fascias have a white glass mosaic facing.



9

10

8, the vehicle entrance and security office, which is elevated and pushed forward from the main building to give views of all traffic, entrances and exits, and which controls all the power-operated sliding-folding doors.
9, reinforced concrete columns with mushroom capitals are used in the vehicle entrance because of the heavy load from the reel store above. The side walls are lined with a deep blue glazed brick and the ceiling with sound-absorbent material. Exhaust fumes are mechanically extracted through underfloor ducts.
10, the vehicle entrance with the reel store above, showing one of the 9 ft. deep reinforced concrete warren girders which support the edge of the 30 in. thick floor slab of the store.

In the gossip-history of the 'Aesthetic Movement' in England, the legend of the Peacock Room retains a special atmosphere of scandal, mystery and tragedy. How much of the scandal was contrived, how much of the mystery is merely mystification, how far the tragedy was pure coincidence—and the quality of the Peacock Room as interior decoration—may be judged from Peter Ferriday's re-ordering and re-interpretation of the established facts, below.

The Peacock Room that was once a part of 49 Princes Gate, Kensington, and is now in Washington, has been much written about during the last half-century and was intensely publicized by Whistler when he had finished his work there in 1877. Information was collected from many actively concerned by the Pennells for their life of Whistler and the house and its contents were described in detail by Theodore Child. With a considerable literature already in existence some apology is required by anybody adding to it.

The accounts of the Room have been in the main concerned with Whistler and have been based on Whistler's stories of what happened there. Fact and fancy were one with Whistler and if it is unlikely that much can be added to the Pennells' account of his work there it is at least possible to discover something of the two other participants, or victims, in the affair. They were the owner of 49 Princes Gate, F. R. Leyland and the architect, Thomas Jeckell, or Jeckyll.

That it has been possible to add anything at all to the story is due almost entirely to those whose names appear in the acknowledgments. Whistler's letters were until recently in rigorously enforced copyright, while the letters addressed to him were hidden in Miss Philip's collection. Only a small proportion of Whistler's letters has been examined and it may well be that more of his writings about the Room will be published. Few of F. R. Leyland's appear to have survived and nothing of Thomas Jeckell's effects is traceable, but there again papers may well come to light which will settle some curious features in the story. F. R. Leyland, especially, deserves a biographer. His life was a very remarkable one.

One reason for writing about the Room again is that the existing accounts are unsatisfactory in many respects. Frederick Richards Leyland appears in two often-reprinted books as Francis Leyland and Sir James Leyland, and he has recently been styled Mr. Leland. Errors of this sort are of little account except to reviewers but the 'dramatic possibilities' have encouraged a different, and less trivial, kind of inaccuracy. Jeckell's visit to Princes Gate to see what had been done to his room —there is, it may be said straight away, no evidence of such a visit— has produced this remarkable flight of fancy. 'The shock cracks his brain. He staggers home and is found a few hours later muttering to himself and trying to cover the floor of his room with gold. He dies in a madhouse.' The story originates with Murray Marks, the art dealer, but of course he did not put it out with such abandon.

Beyond the details, interesting and amusing as they are, of the Peacock Room is the backcloth of its decade, the marvellous Seventies. In this decade the taste and the ideal of the age was astonishingly altered. There are two Victorian ages, before and after the Seventies. The Law Courts, Grimes Dyke, the Peacock Room were built, Bedford Park was begun, the Grosvenor Gallery opened, *The North-West Passage* and *La Ghirlandata* painted, *Arrangement in Grey and Black: Portrait of the Artist's Mother* exhibited at the Royal Academy, Whistler v. Ruskin enacted; early in the decade *Middlemarch* was published, late in it *Daniel Deronda*. So far as any generalization will do for complex events the best of Victorian work before the Seventies was earnest, thrustful and harsh, and centred on the Religious Revival; after the Seventies the aim was style, taste, fancy and the centre was society. *Truth* and *The World* would have been disgraceful in 1860; in 1880 they were social necessities. The names of Butterfield and Street do not suggest the graces of social life, those of Norman Shaw and Lutyens do. Wit and frivolity are not suitably accommodated in a Middle Pointed house, and the arts of conversation and of dining and dining out, of social cultivation, required something less austere and less severe than a habitation reeking of the Athanasian Creed. The Victorians, the lucky ones, had begun to enjoy their money and live and feel as rich people should. To this generalization a thousand objections might be raised, but that there was a change in direction within these few years seems irrefutable. The change was drastic enough to suddenly date a generation. Only one case of an artist significantly representative of England before and after the Seventies comes to mind—the remarkable lady who created first Dorothea Brooke and then Gwendolen Harleth. That was the achievement of genius.

F. R. Leyland, Whistler and Tom Jeckell have their parts in these events.

D.G.R.

The man who drew together the diverse people who were to form the taste of the Seventies, Eighties and Nineties was Rossetti. Without him the later Victorian age would have been very different, for better or worse.

Of his very extraordinary life little can be said here, but as the friend of Leyland, Whistler and Jeckell he cannot be altogether omitted. The young, Chatham Place, Rossetti had with his charm, conversation, enthusiasm, prejudices and disinterestedness brought about the most abundantly documented 'incident' in English art, Pre-Raphaelitism. His own contribution as a painter was insignificant, the two ingenuous oils now in the Tate, but in other ways his contribution was paramount. He held together the curious circle of Millais, the boy genius, Holman Hunt, the solemn ass (but painter of *Strayed Sheep*), the irascible Madox Brown, the Popishly inclined Charles Collins, the snoozing Collinson, the emigrating Woolner, Stephens, Arthur Hughes, and invented their phraseology, 'sea of slosh,' 'avuncularism,' 'tin,' 'stunner.'

Rossetti lounged through the

Fifties—Millais and Hunt were romping away—in a seeming inability to get any work done. A few Dante water-colours and some book illustrations, enough to bring William Morris and Edward Jones to his side, were all he had to show. Between 1857 and 1859 he produced the Arthurian water-colours, some of which were perfectly formed, subtle, tender and pure. They made any further mediaevalizing, and Burne-Jones's whole career, a work of supererogation. They may not be masterpieces even in English art but minor successes are the achievement of the exceptionally able and devoted. The lounging had not been laziness.

The Tudor House Rossetti, ending in replicas, chloral, and near-madness, was the one known to Leyland and Whistler. Tudor House in the Sixties was the centre of Victorian artistic dissidence, for Rossetti's personal attractiveness was unfailing. There was in him, whatever the disfigurements, a certain largeness. Morris, Whistler, Burne-Jones, Sandys ('The Tomb of Loans'—D.G.R.), Philip Webb, Swinburne, Shields, Meredith, Madox Brown and many others formed the Set, until the chloral had done its damage to their host. The life at Tudor House in the Sixties, with the wombats, the armadillo, the white mice, peacocks, zebu, and other beasts (a lion and an elephant were seriously considered)—there has never been anything like it. To the artists, writers, Blue and White must be added the outrageous and endearing Charles Augustus Howell, dealer for Rossetti, Whistler, Sandys, Watts, former secretary of Ruskin, raconteur, liar, gossiper, generous friend, and legend. He and his wife were painted by Rossetti and Sandys, his mistress[1] was painted by Whistler, and she painted F. R. Leyland. The Rossetti Set went in for artistic inbreeding.

The corollary of the artist who never exhibited at the RA and whose productions were by the standards of the time esoteric was the patron of unusual discrimination and independence. In attracting such men and keeping them buying and paying in advance—years and years in advance—Rossetti was a master. Hounded by sleeplessness, full of chloral and nearly mad he never let a patron get away. The patrons were generous and forgiving men; 'Leyland and Graham have both turned up trumps as to tin.' With few exceptions they were business men and 'self-made'—the vulgar, ostentatious, boasting, ugly and greedy of English fiction and snobbery. James Leathart of Newcastle, George Rae of Birkenhead, F. R. Leyland of Liverpool, Frederick Craven and W. A. Turner of Manchester, William Graham, and the lawyers, Valpy (the friend of Samuel Palmer) and Anderson Rose—these men bought the bulk of later Pre-Raphaelite work, as well as some Whistler and Albert Moore. They came to buy Rossetti and he beguiled them into buying the paintings by his friends. For all the seediness and decay he was that sort of man. In his own painting he influenced, lamentably in many ways, the taste of the last quarter of the century, by his character he influenced it by finding the necessary backers. He both founded and funded the aesthetic movement as it is horribly called.

[1] This lady also painted the portrait of Pusey displayed at Pusey House, which must have amused Howell and Rossetti and which would not have amused Canon Liddon had he known.

F. R. Leyland

Frederick Richards Leyland was born in 1831, three years after Rossetti, three before Whistler. He was a Liverpool shipowner, founder of the Leyland Line, art collector and reputedly the last man in England to habitually wear frilled shirts. His portrait was painted by Whistler, Val Prinsep, his son-in-law, and Rosa Corder. His wife was painted by Rossetti, Whistler and Phil Morris.

According to Mrs. W. J. Stillman (the stunner, Marie Spartali) Leyland's mother was a poor woman who sold pies in the streets of Liverpool. One of her customers was a Bibby and he gave her son a job, to run errands and sweep out the office. The Yankee exaggeration of this suggests that the story is Whistler's. (One is reminded of Philip Heseltine who said he was born on the Embankment. He was, in the Savoy.) Leyland was educated at the Institute, Mount Street, and entered John Bibby, Sons & Co. as an apprentice—this more dignified status was insisted upon by Val Prinsep. In the following years 'his intense application, his accuracy and despatch, and his intimate knowledge of any transaction which came within his cognizance' made him indispensable to Bibby's. The field of their operations was the Mediterranean and Leyland taught himself French (his favourite reading was Balzac and Zola) and he 'spoke Italian to perfection.' The rapid increase in the importance of Bibby's was due, according to Sir William Forwood, who knew everything about the Liverpool shippers, to young Leyland. He came to run the firm while in his early thirties. At the time Bibby's had an extensive business as copper smelters, with land in Birkenhead. The Birkenhead Corporation wished to acquire this land and after a failure to agree on the price went to arbitration. Leyland conducted Bibby's case with complete success—'this may be considered the turning point of his career, for subsequently he had complete command of the business until the firm was dissolved.' He re-equipped the Bibby fleet to the extent of designing in their essentials the new steamships—his revolutionary views on ship design were later to influence the White Star liners.

As in the matter of his parentage there is more legend than fact about the dissolving of the Bibby firm. The legend is that Bibby's were presented with an ultimatum in 1872. They had the choice of selling out to their manager or their manager would set up in competition. The Bibby family decided to sell but declined to allow Leyland to use their name, known throughout the Mediterranean. As a revenge Leyland had their brass plate deposited on the doorstep of their house on the morning he put up his own brass plate. (This story is made the more unlikely by the appearance of John Bibby at Leyland's funeral twenty years later; the same Bibby bought some Rossetti works at his sale.) From January, 1873, the Leyland Line made his name pretty generally known.

Rival shipowners were reported to have made fun of Leyland for his unusual methods. On his desk he had a card file brought up to date every morning showing the position of every ship and the space he had to offer. His exact methods paid and the other shipowners were soon copying him. He had a passion for tidiness—the order of his houses was remarked on, and in his dealings with painters he could tell them how much and to a penny he had advanced them and when, and by return of post.

This career alone would qualify Leyland for a place in the history of English shipping, but there was a good deal else. The cultural traditions of the Liverpool merchants have been much written about, but, with one exception these rich traders did not buy modern paintings. John Miller, a Scot and a most shadowy figure, was the exception and under his guidance the Liverpool Academy awarded its annual prizes to Holman Hunt, Millais and Madox Brown when they were being reviled in London. Miller himself owned Millais and Rossetti paintings, was a friend of artists, particularly of W. L. Windus (*Burd Helen* and *Too Late*), and kept open and convivial house. The likelihood is that Leyland made his acquaintance with modern art and artists there. The only other Liverpool patron, a few years later than Miller, was George Rae, the banker, who commissioned *The Beloved* and bought the Arthurian water-colours from William Morris. He does not seem to have been a friend of Leyland's. By 1864 Leyland had commissioned a painting from Rossetti for 450 guineas; this was the *Lilith*, not delivered until 1869 and later ruined by repainting. From then on Leyland was, with William Graham, Rossetti's chief patron. A crayon *Venus Verticordia*, the portrait of Mrs. Leyland, *Loving Cup* were begun for him in 1867, *Veronica Veronese* in 1872, *Proserpine* and *The Blessed Damozel* in 1873, *Dis Manibus* in 1874, besides many crayons and drawings.

It has already been said that to meet Rossetti was to help in the upkeep of his friends. As early as 1864 Leyland was advancing money to Whistler. He was the second purchaser of *La Princesse du Pays de la Porcelaine*, and by 1867 had advanced £262 10s. towards a commission of £315—if this was for the portrait of Mrs. Leyland, as is likely, then Leyland was unfortunate; he still had not got it ten years later. Mrs. Leyland described the posing as 'near martyrdom.' Of the relations between Whistler and Leyland something more will be said later. As Rossetti had beguiled the shipowner into funding the American artist so he saw to it that Jones, Sandys, Simeon Solomon and Madox Brown benefited. Leyland paid 500 guineas for his replica of *Chaucer at the Court of Edward III* in 1867, 400 guineas in advance for *Don Juan*, 300 guineas for Sandys' *Valkeryie*. He paid substantially for some Albert Moore, probably on the advice of Whistler. All these painters were paid their full price, there was no haggling, no pressing for rapid delivery, and if advances were requested they were sent straight away. Leyland was the model indulgent patron.

In 1867 F. R. Leyland bought Speke Hall, which testifies to his position in Bibby's and his good taste. Artists were cordially welcome. Rossetti went once for a few days with Howell in 1868, but was totally incapacitated by chloral or drink—'I used to keep him quite out of Leyland's way' Howell reported. Rossetti's life had entered that last long dreary stretch in which he seems to have wanted nothing so much as death. In the same year Fred Walker, after visiting John Miller, went with Leyland 'partly by rail, and partly in his phaeton, to the wonderful old Hall, where I have spent a very comfortable quiet time—the vehicle and servant waiting to carry me back. . . .' Whistler was there so often—a considerable proportion of his pre-1877 correspondence was on notepaper with the embossed monogram FRL on it—that the designation 'visitor' would distort the situation.

Life at Speke was not happy for reasons that are not known. Leyland's bearded severity of appearance appears to have coincided with a manner which did not make for easy sociability. He did not attract his fellow men nor did they attract him. Val Prinsep recorded that he only remembered him praising three men, Rossetti, to whom he was devoted, Burne-Jones, to whom he taught the secret of the cheque book, and Edison, whom he respected. Rossetti, as his letters make clear, did not return the strong feelings; he was grateful to Leyland as a generous patron but no more. Mrs. Leyland was beautiful and sociable and there was friction. 'It is as you say with the master of Speke. Damn such a dog's life! He was here *all day* last Sunday and complained of it, and of his isolation! and still he goes on! . . . I will tell you all on your return.' Howell no doubt did tell Madox Brown all when they met, and add a few details from his own inexhaustible imagination. If Howell's household was at all like descriptions of it then Leyland had spent an interesting Sunday. The only detailed account of life at Speke is Whistler's, and he knew it from the resident's point of view. His arrangement in grey and black nursed the Leyland children through scarlet fever there. One word of explanation is necessary. Whistler shared with Rossetti an incomprehension of music—Leyland took Rossetti to *Fidelio* but the painter thought it ridiculous—but Leyland's greatest and life-long desire was to be a first-rate pianist. (Shipowner, landowner, art patron, linguist, musician!). Albanesi was one of his closest friends. At Speke Whistler met 'X' (the Pennells discreet symbol) the first Bohemian. 'Well, you know, there he was and that was the way he always lived—the prince of parasites! I met him first at the Leylands—an extraordinary household. Leyland was playing the Liverpool Medici—he was interested in art—he would come home from his office, go upstairs to his room without speaking to anyone, shut himself in, and play on the piano, practising and practising. Then, perhaps, he would go downstairs to the drawing-room where Mrs. Leyland was with 'X' and his two singers and other hangers-on, and he would make a scene with her—he was always making scenes with her, so that when he was away she was always having little parties or supper-parties, and he would come home and catch her in the middle of supper sometimes. 'X' was the professional hanger-on, drifting from one house to another. He was a genius, a musician; that was why Leyland kept him for so long.' 'X' subsequently lived off Whistler, or more accurately his creditors, for three years. The 'Liverpool Medici' was a characteristic piece of Whistler malice.

In 1869 Leyland bought a town house, 23 Queen's Gate. In 1872 he sold part of his collection of paintings, probably those acquired before the Rossetti influence had gripped him. When he heard of the intended sale Rossetti wrote hoping that he would get rid of the Herbert (rather harshly as he had much admired him once) and advised him: 'Why don't you give yourself the delight in life of building a fine gallery for big pictures? What a jolly thing that would be!—and you have capital space for it I should think at the back of your smoking room by some arrangement, if indeed

you feel sure of remaining at Queen's Gate. If not, then you could change your quarters with a view to such facilities. I know I'd do it if I were you, for what is life worth if one doesn't get the most of such indulgences as one most enjoys?' At this time Leyland and Rossetti were locked in an epic business struggle over what Rossetti owed Leyland in the way of paintings, over what Rossetti intended to do for him, and what Leyland's advances on the proposed commissions would be. Rossetti was trying to foist a 2,000 guinea *Hero* on him, and Leyland was trying to persuade him to paint what had already been paid for. Leyland was a worthy opponent; W. M. Rossetti said they respected each other as hard bargainers. While these negotiations were going on Rossetti was having a similar encounter with William Graham, and Howell was on his behalf waging (hardly legal) war on two other patrons, Valpy and the photographer Fry. The Lechlade years were prodigious so far as letter writing and intrigue went. There couldn't have been much time left for Mrs. Morris.

So little is on record of Leyland that one would hardly know even the sort of man he was had he not been involved in the famous quarrel with Whistler. That he loved painting there can be no doubt. That he enjoyed the excursions to Tudor House, and the riff-raff he met there, is obvious—he was a regular visitor, and stayed on friendly terms with Howell long after the others had deserted him. Yet 'he hated disorder, untidiness or unpunctuality' Val Prinsep stated. Rossetti was disorderly, untidy and unpunctual, while Sandys, Solomon and Howell added much else to the basis of these three vices. It all speaks of a remarkable forbearance. A last view, his Harrovian son's, may be allowed. 'The governor has such a devil of a temper and won't listen to reason.' So he wrote to the family friend Jimmy.

Whistler

A sensitive, learned and sympathetic Frenchman visiting England in the Fifties and Sixties found much to admire but was much shocked as well. English drunkenness, he never got as far as Glasgow, and English painting were the most shocking of all. At the 1862 Exhibition he found Holman Hunt's colours 'brutal' and 'exaggerated,' his discords 'violent' and 'gaudy.' 'As for their landscapes: blood-red poppies like holes in parrot-green lawns; flowering apple-trees in which the hard white of the petals against the blackish branches is painful to the eye: a meadow-green graveyard in full sunlight, with every blade of grass provided with a highlight and shining like a pen-knife blade. There can be no doubt that there is something peculiar in the condition of the English retina.'[2]

The condition of the English retina which so worried Hippolyte Taine naturally troubled Whistler, Paris trained in matters artistic. Neither could be expected to feel the merits of the Pre-Raphaelites—the whole literary background of which was unfamiliar to them—for they had European connexions only with Germany, and in any case it is almost certain that neither ever saw Rossetti's best work. 'Not an artist, you know, but charming and a gentleman,' Whistler said of Rossetti.

Whistler's pejorative comments on English art were assiduously collected by the Pennells—they did not collect his comments on Millais and Albert Moore, or upon American art or even on Americans. Many of the comments were much to the point and his description of the imaginary 'The Inventor' particularly delightful. His own painting is very much an implied criticism. He began his English career, in 1859, with strong antipathy to English art and had a cordial welcome from some of the English; nothing could have been more promising. He had the necessary connexions, with Seymour Haden, du Maurier, Luke Ionides, and soon afterwards with the Rossetti Set. Through Rossetti he sold his paintings; James Leathart bought one, William Graham bought one, F. R. Leyland commissioned many. John Phillip, RA, recognizing the touch of Velasquez when he saw it, bought *At The Piano* (for £30) and generally from the point of view of achievement the early years in England were satisfactory—in works completed and the backing of the judicious. Whistler was very much at home with the Tudor House dissidents; however unlike them he may have been as a painter he had points of connexion—an irregular matrimonial arrangement and an obliviousness of the necessity of religion. G. P. Boyce, the landscape painter, buyer of Rossetti and owner of a Philip Webb house, first came across him in March, 1860; 'Met a gallicized Yankee, Whistler by name, who was very amusing.' In July, 1862, he met him at Swinburne's in Newman Street, along with Rossetti, Prinsep, Sandys and Jones. Boyce was at Whistler's in the same year with Swinburne, Rossetti, Poynter and 'Joe.' In January, 1863, Boyce and Rossetti bought sets of the London etchings, and in July Boyce met at Rossetti's Swinburne, Monckton Milnes, Legros and Whistler. And so it went on, at Rossetti's, the Ionides, at Arthur Lewis's.[3]

The Whistler contributions to the Set were wit and the Japanese fancy. Jocularity and high-spirits (hide-and-seek in the Red House) they already had; at its best there was Swinburne's reply to a young man who objected that Landor and his aspirates were not wholly in accord. 'Well, and what the 'ell's that got to do with you, if 'e 'appens to 'ave that awful 'abit?' Whistler's wit, though no very exceptional talent, was crueller and more sophisticated. In some stories the individuality of the tone still comes through. Hearing that a Henry Holiday painting had been rejected by the RA Whistler remonstrated with Redgrave. 'You know they can't hang everything that comes in higgledy-piggledy,' Redgrave said. 'Why, what do you call your present exhibition? Isn't that higgledy — and *particularly* — piggledy?' Only two other voices come across the ages like that, Rossetti's in rather a different way in his limericks and, better than any, Howell in two or three pieces of reported dialogue. Howell's tone was quite unique. The taste for Japanese which Whistler brought with him is documented almost to a day. Its beginning in Paris in 1856 has been written about often enough and there is no need to say more than that by 1860 Manet, Baudelaire, Tissot, the Goncourts and others were buying Japanese prints and two years later the Rossettis were. The Blue and White craze began at the same time and the quest for it by Rossetti and Howell has often and entertainingly been described; within a few years Sir Henry Thompson, the great surgeon, amateur painter, friend of Whistler and eccentric (he fed his cobra on mice at the dinner table), Louis Huth and F. R. Leyland had considerable collections, while the young and ingenious dealer Murray Marks was doing a splendid trade in selling it (buying cheap in Holland, where there was a large eighteenth-century accumulation and selling dear in England). Marks, it may be said, seems to have been a very decent fellow, and helped Simeon Solomon when he was in the condition of an untouchable. In 1862, the year of the Exhibition, Eden Nesfield, a friend and sparring partner of Whistler's, had put, according to Eastlake, some Japanese decorative touches to Cloverley Hall, an astonishingly quick transmission. Generally, in art and architecture Japanese had very little effect until the Eighties and Nineties. In literature, of course, Edwin Arnold was very smitten. On Whistler himself the influence was immediate but complex. Briefly it might be said to have confirmed him in a natural taste for decorativeness—thoroughly antiseptic and cleansing for one surrounded by morbid - mediaeval Pre - Raphaelites and anecdotal RA's—and to have caused him to waste precious years in trying to incorporate the obvious features directly. The *Princesse* was a costume piece and the *Six Projects* were left unfinished. It almost certainly made possible the Nocturnes in which no direct use of Japanese is made and in general encouraged his naturally delicate and fastidious taste—though even without the Japanese influence it is obvious that his own intelligence and character as an artist would have led him well away from his contemporaries.

The years of fruition were those roughly between 1869 and 1873. The Mother, Carlyle, Cicely Alexander, the best of the Nocturnes and a good deal else were produced. Compared with the many Millais portraits of girls Cicely Alexander is a masterpiece. It is graceful, refined and tender. Unfortunately it is unique. What happened subsequently in Whistler's career it will be left for F. R. Leyland to bluntly say, but even at this stage the reservation that Whistler is a greatly over-rated painter may be made. But if sale room prices in his own time had been any accurate measure then Whistler would have been a very rich man.

F. R. Leyland paid about £100 for *La Princesse*, the Nocturne owned by Mrs. Leyland was a gift. Leathart paid less than £100 for the *Lange Leizen*. Alexander Ionides paid less than £50 for *Sea and Rain*. Gerald Potter bought *The Blue Wave, Little White Girl* and a Nocturne for £230 the three. Haden gave him £10 for *The Thames in Ice*. The Crépuscule of the Valparaiso trip went to Howell, presumably to cover a debt. The Hon. Percy Wyndham's Nocturne brought him 150 guineas, as did the most famous of all, William Graham's. The etchings can only have brought in modest sums; 'poésie profonde et compliquée d'une vaste capitale' but little market value. The Carlyle and Artist's Mother were unsold.

It would be surprising if Whistler earned more than £3,000 in his profession between 1859 and 1876. Seventeen years! And yet, 'I did not dine alone for years.' The background is, of course, the great art industry, the RA junketings, Agnew, Gambart, high prices from Holman Hunt's 11,000 guineas downwards, Millais' reputed £40,000 in a year, the Pender, Bolckow, Mendel, Grant collections.

This failure must have been very bitter, and the later strutting, cackling, and aggressiveness were perhaps partly a response to it. For years Whistler showed courage in adversity. Cyril Flower, J. P. Heseltine, Anderson Rose, Sir Thomas Sutherland, Alexander, and a few others were occasional buyers and hosts in the early Seventies, and there were many hosts who did not buy and only entertained him for his wit and eccentricity. F. R. Leyland was a steady buyer, or supplier of money, and a regular host. From 1864 to 1877 he must have bulked more largely, and entirely more sympathetically, in Whistler's life than any other English acquaintance. The publication of Whistler's letters will perhaps one day establish the truth of this. Considering how unlike the art of Whistler and the art of Rossetti were Leyland was a man of outstanding perspicacity.

Whistler's account of life at Speke, which dates from long after the end of the friendship, has already been quoted. At one time he was engaged to Mrs. Leyland's sister, and Mrs. Leyland told the Pennells, for what it is worth, that she would herself have married Whistler had she been free. There was a rumour that she intended to elope with him, which she described as absurd. He acted as her escort when she was alone in London. She lent him her valet for his first entertainment at Lindsay Row, and with her sister put up the curtains. At one of these entertainments Leyland was asked by Whistler to take in Grisi's daughter; as a musical amateur it was appropriate. The young lady's first remark was to ask him how he liked Ouida's novels! (The fact that this story was retailed as humorous by Whistler tells something about Leyland; Mr. Gladstone made a special visit to Marie Corelli.) The Leyland girls were the most patient of models, and to the Leyland boy Whistler was 'Jimmy.' Leyland himself was all a painter could ask for.

> Dear Leyland—I am going to ask you for more money.—This you see is the festive season at which the struggle with the enemy becomes daily more difficult. I come to you for ammunition as mine is exhausted and I am to do great decisive battle with strong forces on Thursday I fear—Will you kindly send me the balance left for your picture, which is steadily progressing.

Leyland sent 50 guineas.

1, *'La Princesse' by Whistler in the Peacock Room.*

[2] From *Taine's Notes on England*, translated by Edward Hyams, 1957, and a classic.

[3] The West End draper who married Kate Terry. The tumultuous applause from the pit was led by Lewis's young assistants with free tickets supplied by the boss, according to *Truth*.

Whistler spent Christmas of 1871 at Speke and probably that of 1878 —at least Mrs. Leyland asked him to come with the inducement 'you might have good sport on the remaining dogs' (referring to his one and only shooting expedition). The debt to Leyland was more than financial.

'I say I can't thank you too much for the name "Nocturne" as a title for my moonlights! You have no idea what an irritation it proves to the critics and consequent pleasure to me—besides it is really charming and does so poetically say all I want to say and *no more* than I wish.'

Leyland was a friend and patron in a million. While he was buying Whistler was being rejected in France and England, was showing unmistakable signs of being unable to finish his works, and was being abusively reviewed in the press, except by that staunchest of men, W. M. Rossetti. It is one thing—exceptional thing rather—to have taste, another to back it with money, and yet another to do so when all other connoisseurs regard the painter as a practical joker. Whistler, the painter of *Cicely Alexander*, Battersea Bridge and *Carlyle*, had this one steady patron. The Liverpool shipowner had a touch of genius too.

Tom Jeckell

The third figure in the Peacock Room, Tom Jeckell, is one of those people whose names crop up in places and ways that suggest that they were interesting—and when one looks further there is nothing else to be discovered.

Jeckell was born in 1827, the year before Rossetti, and was the son of a clergyman. He lived in Norwich, where most of his work was done, and Kensington. He became a Fellow of the RIBA in 1858.

The first reference traced is in the diary of the Rev. B. J. Armstrong, the vicar of East Dereham, who, on Shrove Tuesday, 1857, attended a lecture on the history of his town. 'Rather a dry affair, though Mr. Jekyl, the architect, illustrated the various styles of the church windows, etc., on a blackboard from the National School.' He restored Scarning and Halesworth churches in 1858, Old Catton, Eaton, Haddiscoe and Hautbois in 1861, Teverham in 1863. The record of his subsequent work is short. Horningsea was restored in 1867 and the nave of Loddon in 1871. His only new churches seem to be Thorpe, 1866, Stapleford Abbots, 1862, and Lilley, 1870–1, and nobody has ever suggested that they were remarkable works. Gothic was not his style.

Jeckell knew George du Maurier before his Paris Trilby days and when du Maurier returned to London the acquaintance was renewed. The letters of the cartoonist provide the only information about the architect at this time, and the portrait is unflattering and amusing.

I am writing to you from Jeckell's apartment in Pall Mall—1st floor, immense drawing room regardless of expense, open windows on balcony. (1861.)

Tom J. in Jersey nursing the High Sheriff. Tom J. is rather a little tuft hunter, and will probably cut me for marrying a linen-draper's daughter, unless I make a great name like Leech, in which case il me léchera les pieds. (1861.)

Tom Jeckell has just arrived; what a little lying snob he is! As soon as I can pay him I shall see much less of him. (1861.) His [Whistler's] adventures as described to a lot of fellows at T. Jeckell's in the evening were as amusing as usual. (1862.)

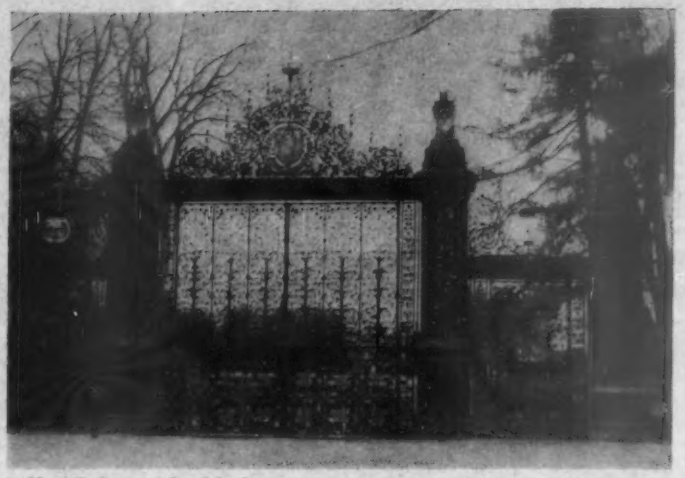
Tom Jeckell's 'Norwich Gates' for a park are one of the finest things in the International Exhibition and he is making lots of money. Getting very unpopular for he tells such colossal lies & talks so beastly big about his friends Wales and St. Albans. (1862.)

In January, 1863, Jeckell and Poynter were at du Maurier's wedding 'joyously bedecked' and there the letters cease.

Charles Barnard was one of that considerable Victorian breed, the Inventor. He set up business in Norwich Market in 1826 as an Ironmonger, Oil and Colourman. He invented the domestic mangle in 1836, a noiseless [sic] lawnmower, a geared lawnmower, and, by far the most important, the wire netting loom in 1844. The original loom is in the Bridewell Museum. To the present day the name of Barnard has signified wire netting. In a town whose textile trade was on the decline Charles Barnard did his home some service—by the end of the century wire netting, shoes, chocolates, printing, and mustard were to have replaced the trade of centuries in the capital of East Anglia. The first 'art' work of Barnard's was a Gothic hinge for the 1851 Exhibition, but soon afterwards they were making grates, stoves and gates—along with stable fittings, garden furniture, pig and poultry troughs. From 1859 the firm was known as Barnard, Bishop and Barnards. The circumstances of Jeckell's connexion, and unfortunately all record of it, with Barnard's is lost. The association lasted for fifteen years and began with a thumping success, the Norwich or Norfolk Gates mentioned by du Maurier.

These gates made the name of Barnards when shown at the 1862 Exhibition and one can well understand why. They were neither Gothic nor Classic, being composed entirely of leaves with side panels of flowers. The workmanship was splendid, the design delightful and unaffected, and they looked well close to and from a distance. The only fault was in the spindly sprays along the top, but otherwise they were very evidently the work of a natural designer, a spontaneous and joyful creation. Compared with the other exhibits, Skidmore's Hereford screen was there, they were in a class of their own, and were recognized to be so at the time; *The Times* gave its official approval. It might be recalled that it was at this Exhibition that Morris, Marshall & Faulkner, the Ecclesiological Society, J. P. Seddon, and R. Norman Shaw made their debuts as furniture designers. The furniture was brutish and nasty and it is really a sad thing that Morris did not make use of Jeckell's talents which were so obviously superior in this sort of work to those whom he did employ. The Gates were purchased by the Gentlemen of Norwich and Norfolk and presented to the Prince of Wales as a wedding present in 1863. In 1908 they were moved to their present position in Dersingham Avenue and a splendid sight they still are.

2, iron grate designed by Barnard, Bishop and Barnards.



3, Norfolk Gates at Sandringham.

For some years Jeckell, or Jeckyll as he was generally called, was associated with this first triumph. He belonged in the mid-Sixties to a London dining set whose members were Swinburne (poetry), B. T. Williams (law), B. W. Richardson (medicine), Dominick Murray (stage), R. E. Francillon[4] (fiction), Tom Purnell (journalism), Joseph Knight (criticism), and Whistler (himself). '"Jeckyll of the Gates" was his regular designation on account of a work that had won special attention,' Francillon recalled. During the Sixties Jeckell was, with his fellow Norwicher Sandys (and at least one Norwich patron, Clabburn, the textile manufacturer whose wife gave Rossetti his dowdy and rowdy peacocks) in the Rossetti-Whistler Set, though never an important member. Only two references can be found to this association but they suggest that he was a regular. Boyce noted in his diary for 1866: 'Dined at D.G.R.'s. Fred Burton, Sandys, Jeckyll, Howell, Gagley, Jimmy Whistler and brother, Swinburne and Ormesby. Left with the two last. O. and I saw S. who was rather drunk, safely into a cab at Pimlico Station.' W. M. Rossetti in his diary for 1867 noted: 'A dinner at Whistler's (his brother, Tebbs, and Jeckyll, with myself), and grand discussion as to the campaign of to-morrow, when the motion for his expulsion from the Burlington is to come off.' The motion was carried—after all you cannot push a fellow member through a window even if he is your brother-in-law! The mention of H. Virtue Tebbs provides an admirable illustration of the close-knittedness of the Set. He was a lawyer, a patron in a modest way and the brother-in-law of John Seddon; he was with Howell responsible for the exhumation of Mrs. Rossetti. Cases abound. P. P. Marshall, of the Morris firm, was the son-in-law of John Miller, of Liverpool; W. M. Rossetti married a daughter of Madox Brown; Whistler's brother married an Ionides; Sydney Morse, the collector and owner of Whistler's famous Oriental cabinet, was Harry Wilson's brother-in-law; Whistler himself, of course, married E. W. Godwin's relict; and so forth. The inbreeding was prodigious.

At perhaps a slightly later date, about 1870, Jeckell became the friend of Cyril Flower, a London rentier—hence his later title Lord Battersea—who bought some Rossetti, Burne-Jones (now in the Tate), and Whistler. Flower had the dubious honour of being the model for *Eric, or Little by Little*. In his bachelor days his rooms were leather lined, which suggests Jeckell as his architect; after his marriage to a Rothschild and his being kicked upstairs he had Overstrand built. A Whistler letter suggests that Jeckell was a regular companion. Writing, inevitably, from Speke he asked Flower to go and see his latest Nocturne for which he wanted 300 guineas; he ended, 'By the way get Tommy Jeckyll to go with you, for I want him to see my pet Nocturne.' The only other Jeckell connexion of note was the Cozens Hardy family. For them he designed a chapel at Holt amongst other things. A description of him at this time gives him as 'a pale little man with a bald head and a dark beard.' Mr. Edward Boardman's father recalled: 'I believe he wore knee-breeches and buckle-shoes, and was looked upon as peculiar.'

The Barnards-Jeckell Gates were followed by the design of a series of very popular grates, which show a pronounced Japanese influence. The ingredients of the designs were few; a reeded background, with four or five roundels, some cut off casually at the edges. The roundels contained a flower—sometimes still, sometimes

4, house at Cambridge designed by Jeckell.

[4] Francillon was an acquaintance of Howell's, Knight the biographer of Rossetti and Richardson later on a teetotal advocate. Another teetotaller, Sir W. Trevelyan, of Wallingford, left him his famous cellar much to the delight of the press. The corks had gone so Richardson had no difficulty in resisting the temptation.

spinning—bees (the Barnard rebus), or birds. In every case the detailing was exquisite and for cast-iron astonishing. The placing of the roundels and the handling of the asymmetrical design was delicate and assured—Jeckell had a designer's touch. The grates were pleasing, ingenious and refined, and they sold by the thousand. The Cause of Art and Industry had had one of its few successes.

The Seventies saw Jeckell's best works and his most notorious and the end of his professional career. The showrooms of Barnards, now Hope's the tailors, in Norwich Market Place must belong to about 1870. It is a commodious red brick building rather crude in detail and generally ponderous. Between 1870 and 1872 Jeckell designed his only considerable house, 62 St. Andrew's Street, Cambridge. The client was the solicitor Henry Rance, twice mayor Cambridge. The house was five storeys, brick and very Queen Anne, with a striking pattern of alternate wide and narrow windows. The only buildings at all similar of the date were Eden Nesfield's; it preceded Shaw's exercises in the manner by a number of years. Inside the notable feature was the dining room with its 'mathematical ceiling' which was a pattern of eccentric circles studded with the roundels familiar from the grates. This remarkable house was provided with a lift (the first in an English house?) and had unusually generous sanitary arrangements. After Rance's death it was used as the University Offices and demolished in 1957.

At about the same time, 1872, Jeckell designed a room at the Holland Park house of Alexander Ionides. The Ionides family occupied a special place in the affections of the better artists of the 1860s and 1870s; theirs was one of the few houses where they were always welcome, could enjoy themselves and could be sure to find beautiful women. That Mr. Ionides bought their paintings was an additional attraction. The Holland Park house was adapted for its new owner by Philip Webb and over the next twenty years various artists, Walter Crane most of all, made it a miniature and very lush palace of art—not a square inch was left untouched by art. The most relaxing room was designed by Jeckell and devoted to the pastime of billiards. It was a simple and refined arrangement of panels divided by oak framing; the small panels were filled by Japanese prints, the larger ones by Japanese paintings on silk. The overall pattern was oak and red lacquer. The ceiling too was a simple panel pattern. It must have been refreshing to enter the billiard room after the tiles, grilles, gesso work, wall paper, Webb, Morris, Kate Faulkner, Crane oppressiveness of the rest of the house. Jeckell had a sense of moderation.

For Barnards Jeckell secured a prize medal in 1873 at the Vienna Exhibition for some ingenious and fanciful gates, and in 1876 designed for them what used to be called in the sale rooms a chef d'oeuvre. This was the ornamental pavilion, 35 feet long by 18 feet wide by 35 feet high, which was sent to the Philadelphia Exhibition of 1876. The purpose was to display Barnards' skill in wrought and cast-iron work, the designer's job therefore to give full scope to his employers. This Jeckell did. The pavilion was two storeys high, the upper one being supported on twenty-eight square columns. These columns were patterned and from cast-iron brackets supported a verandah. In the brackets were bas-reliefs as delicate as paintings; 'Apple blossom, with flying birds,' 'Whitethorn with pheasants,' 'Scotch fir with jays,' 'Sunflower,' 'Chrysanthemum, narcissus, daisy and grass, with a crane and rising lark' and so forth. These reliefs made some of the better-known wallpaper designs look heavy handed. Fans along the first-floor verandah roof were patterned with rose, honeysuckle, hydrangea, etc. There were also some characteristic roundels—butterflies, bees, birds, fish—set in a key pattern, and very beautiful. The upper floor had a wrought-iron railing of a pronounced Japanese flavour. Along the roof ridge was an elaborate cresting. The base of the building was surrounded by a railing of wrought-iron sunflowers four feet six high. One of these splendid sunflowers was exhibited a few years back at the Victoria and Albert Museum along with some of the fabric used for interior decoration.

Written descriptions can do no sort of justice to the Pavilion. It was admirably conceived to give Barnards' men an opportunity to produce highly-skilled and varied work, but it was more than this. In detail it was beautifully designed and the various elements were well worked together, although the upper railing and cresting were notably exotic. All in all it was the product of great skill, much experience and outstanding talent. As an exhibition piece intended to be striking it can hardly have failed to be a splendid advertisement for Barnards. The Pavilion was on display at the Paris Exhibition of 1878, receiving a laudatory review from Lewis Day on this occasion, and then bought by the Norwich Corporation who erected it in Chapel Fields. There it stayed exposed to the inclement East Anglian climate for seventy years. The detailing could hardly stand up to that. It was destroyed a few years ago by the Corporation. A similar fate befell one of Jeckell's last works, the cover of the Boileau fountain in Norwich. The cover was removed on the grounds that the Boehm sculpture could be more easily seen.

With that one comes to Jeckell's last and most famous work—49 Princes Gate.

* * *

When F. R. Leyland at last secured a London house in which to display his treasures he bought an undistinguished building of the 1850s and then rebuilt it internally. Sir Thomas Sutherland said that the reason for this curious procedure was that Leyland did not like the ostentation of a great new mansion, and that is probably the truth. The staying in Kensington was natural enough as it was the artistic centre of London. Millais and Leighton had their palaces there, and the art collectors Thomas Fairbairn, Bolckow, Mappin and Heseltine lived in Princes or Queen's Gate. The social 'tone' was, one supposes, satisfactory, and presumably a cut above the Cadogans. Henry James, who was pathologically interested in such matters, mentions in one of his contes two ladies, one having 'rather a dull house in Portman Square' the other living 'with a brighter modern economy' in Queen's Gate. There is no mistaking the snub there. A less exact observer, Anthony Hope, charted social London as 'from Putney to Maida Vale, from Maida Vale to Paddington, from Paddington to Kensington Palace Gardens,' so Leyland had not chosen too badly.

Of London 'art houses' there had been only one of importance in recent years and that a conspicuous one, the mansion for the richest commoner in England in Park Lane. More modest, both in size and architectural value, art houses of the Sixties and Seventies were Alma Tadema's, Leighton's (Aitchison), Millais's (Hardwick), Alfred Morrison's in Carlton House Terrace (Owen Jones—'it makes the chief palaces of Northern Europe vulgar'), Frederick Lehmann's in Berkeley Square (Aitchison, with decorations by Albert Moore), George Howard's in Palace Gardens (Webb, the Morris company, Burne Jones, Crane), and the slightly later Makins house in Queen's Gate (Shaw, with the Morris company). There were of course Shaw's houses for the RAs and Whistler's various interior decorations, but on the whole nothing outstanding. 49 Princes Gate was the most remarkable.

Norman Shaw was the architect for the reconstruction. Murray Marks's biographer claimed that the dealer was responsible for the choice—Shaw had designed his Oxford Street shop. The great feature was that the three living rooms were interconnecting, being divided by screens reminiscent of that of a church at Bois-le-Duc; when opened out the room was ninety-four feet long. From the recently demolished Northumberland House came the late eighteenth-century staircase; no grander first feature could have been chosen. 49 Princes Gate would have been a fine house and a credit to its owner's good taste even without the famous dining room. A Shaw interior was not thrilling or delicate, but solidly worthy and skilfully planned.

Among Leyland's most treasured possessions was his porcelain, his pots. Their accommodation was put into the hands of Thomas Jeckell—whether on the advice of Shaw, Marks or Whistler there is no knowing. It may be that Leyland had been in the Ionides house and chosen for himself.

6, one of Jeckell's original drawings of details of the Pavilion.

Jeckell had three compulsory ingredients in designing the dining room, where the porcelain was to be; leather hangings for the walls, Whistler's *Princesse*, the only painting in the room, and the pots. The leather has been variously described as Cordovan and Norwich; it was apparently Cordovan leather which had in some mysterious way reached Norwich and been sold from there in London. Its immediate provenance may have been Old Catton, for an account of the village published in 1878 describes some leather embossed with flowers painted gold and silver in a house adjoining Catton Old Hall, and a later book states that the leather, by then sold in London for £253, had come from a ship wrecked in the Armada and reached Norwich after being in a house in Wells. This is a pretty story but it would be a coincidence if it were not the leather of the Peacock Room.

The arrangement adopted by Jeckell for the room was incised shelving, very graceful and appropriately reminiscent of Japan, for the pots, a Jacobean pendant ceiling ('stalactitic droppers' *The Times* called the pendants), the *Princesse* above the fireplace, the Spanish leather round the walls. This assembly—it could hardly be called a combination—of features was not satisfactory, and perhaps in the nature of things could not be so; such diverse materials were irreconcilable. The choice of the Jacobean ceiling was likely to have been dictated by the rest of the house—it matched the Shaw interior. The pendants themselves served as gas fittings, an example of live antiquarianism! In the hearth the fireirons were two of

5, mathematical ceiling in the Cambridge house.

the Pavilion sunflowers. E. W. Godwin, who was most sympathetic towards Jeckell and by this time an eclectic or dabbler himself, wrote: 'To speak most tenderly, it was at the best a trifle mixed.' In fact it must have been a complete failure and Jeckell's worst work. It was certainly an undertaking that could not have been envisaged before the Seventies. There was an eclectic superabundance of tastes about it. But historical significance is no substitute for artistic success.

At an early stage in the work Whistler was interested. Mrs. Leyland wrote to him in April, 1876: 'Jeckell writes to know what colour to do the doors and windows in the dining room. . . . I wish you would give him your ideas.' With his considerable experience in the decoration of his own house—one of his unqualified successes[8] and as influential as anything he did—it was natural that the Leylands should consult him. Whistler painted some of the panels of the staircase with discreet Japanese motifs, and at that stage the house must have been attractive enough. Shaw's sombre decor with Rossetti, Madox Brown, Crivelli, Botticelli, tapestries, Indian, Tyrolese and Italian cabinets—a general air of wealth and connoisseurship.

The troubles began, in the dining room, with the colours of the carpet and the colouring of the flowers on the leather. These, Whistler claimed, spoilt the effect of the *Princesse*. The carpet was altered and Whistler given permission in mid-1876 to touch up the leather. Leyland was not in London at all because his time in 1876 was devoted to organizing the entry of the Leyland Line into the Atlantic trade, a formidable undertaking. He left Whistler in charge, and with, according to Whistler, a gentleman's agreement as to his remuneration. The sum of £500 has been quoted but the exact details of this agreement, even of the time of it, will only be known with the publication of Whistler's letters. From the summer of 1876 until February, 1877, Whistler worked, transforming the dining room into the Peacock Room.

The first notice of the decoration appeared in the *Academy* for September, 1876, and at this time it is clear that the peacock pattern had not been evolved though there had been a liberal use of gold paint on the leather. The pattern of the leather had been 'modified and enriched by the introduction of a fair primrose tint into the flowers patterned upon the deep ground of gold.' Sending this review to Leyland Whistler wrote:

'Mon cher Baron—Je suis content de moi! The dining room is really alive with beauty—brilliant and gorgeous while at the same time delicate and refined to the last degree—

'I have enfin managed to carry out thoroughly the plan of decoration I had formed—and I assure you, you can have no more idea of the ensemble in its perfection, gathered from what you last saw on the walls, than you could have of a complete opera judging from a third finger exercise!—Voilà—But don't come up yet—I have not yet quite done—and you mustn't see it till the last touch is on—

'I have nearly worked myself to death and if you like I propose to come down to Speke for a couple of days' rest when I have quite finished . . . a sort of farewell visit before I get off for Venice—and then perhaps you would come up with me and we could enjoy the success of this great work together. . . .

'There is no room in London like it mon cher—and Mrs. Eustace Smith is wiped out utterly!—What do you think of the article in the *Academy*? There will be a little letter of mine in next week that Tommy may have his full share of the praise as is right.'

Mrs. Eustace Smith, a neighbour in Princes Gate, had recently employed Tom Armstrong and Aitchison to decorate and Walter Crane to paint a frieze of white cockatoos in her boudoir. The letter in the *Academy* pointed out that the shelving was by Jeckyll 'the distinguished architect, to whose exquisite sense of beauty and great knowledge we owe the well-remembered "Norwich Gates," and whose delicate subtlety of feeling we see in perfection in the fairy-like railing of Holland Park. If there be any quality whatever in my decoration, it is doubtless due to the inspiration I may have received from the graceful proportions and lovely lines about me.'

Exactly what occurred next is impossible to find out though it is known that Leyland was annoyed at the publicity (though perhaps not at this fairly mild form of it) and very indignant to find that a complete scheme of redecoration had been begun without reference to him—he had agreed to only minor modifications. The result in any case was farcical. Whistler postponed his Venice trip to finish off his work. Instead of finishing what was almost complete he began all over again. Leyland did not know what was going on—he knew that Whistler was still working in the house but must have assumed still at the same scheme.

At this stage something like hysteria seems to have beset the artist and one gets the impression that here at least he had found something he could do superbly well and could finish. The peacock decoration, using the eye and breast feathers was furiously begun. There was nothing strange about the choice of the beast. A year or two before Godwin's peacock wallpaper had been designed, Minton's had a life-sized peacock modelled for them in 1876, Rossetti had them in his garden, Lady Beconsfield had them strutting all over the grounds of Hugenden, and there was a Japaneses suggestion about it. In five months Whistler had completed an enormous arrangement in blue and gold.

He entertained as feverishly as he worked. He kept open house, Leyland's house. The Coles, Sir Henry and his son Allan, were regular visitors. Sir Henry recorded in his diary in December, 1876: 'To Mr. Leyland's to see Whistler room. Original—Gold & Blue with illustrations of Peacocks & their tails. . . . Alma Tadema & his wife came.' Louise Jopling, the artist and subject of an unfinished Whistler portrait and a handsome Millais one, was allowed to add some touches when she came. Sir Thomas Sutherland and the Rudolf Lehmanns came. Mitford, his Chelsea neighbour, and later Lord Redesdale, came, and recorded, 'Whistler quite mad with excitement.' Lady Ritchie came and danced across the floor with him. Princess Louise, the Marquis of Westminster, Mrs. Stillman, the Comyns Carrs, E. W. Godwin came. All these are on record as having visited but how many hundreds altogether dropped in? It was a public entertainment and the bill of fare was the eccentric Yankee artist. 'This is what they saw on entering—a very slim spare figure extended on a mattress in the middle of the floor: beside him an enormous palette, paints, half a dozen long bamboo fish-poles on a line with their butts close at hand, and a very large pair of binocular glasses. Mr. Whistler dressed wholly in black velvet, with knickerbocker pantaloons stopping just below the knees, black silk stockings, and low pointed shoes, with black silk ties more than six inches wide and diamond buckles, was flat on his back, fishing-rod in hand and an enormous eyeglass in one eye, diligently putting some finishing touches on the ceiling, his brush being on the other end of the fish-pole. Occasionally he would pick up his double glasses, like some astronomer peering at the moon, and, having gained a near and better view of the effect, he would again agitate the paint-brush at the other end of the long pole. "Now wouldn't I be a fool," said he, "to risk myself on a scaffolding and nearly twist my head off my shoulders trying to look upward, when I can overcome the difficulty and annihilate space so easily thus?" —and he gave a wave of his fish-pole.' So an American journalist described the scene. (The clothes sound, curiously, more like Jeckell's than Whistler's.) The fishing-rods are authentic and the piece of conversation thoroughly Whistlerish. Mitford found him one day at the top of a ladder:

'But what are you doing?'

'I am doing the loveliest thing you ever saw.'

'But what of the beautiful old Spanish leather? And Leyland? Have you consulted him?'

'Why should I? I am doing the most beautiful thing that has ever been done, you know, the most beautiful room.'

The second press notice appeared in November, 1876, in the *Morning Post* and Whistler was worried about its effect on Leyland. Leyland was called Mr. Naylor Leyland.

By February, 1877, the work was done. Whistler had, in his own eyes, produced a masterpiece. The whole room was gold and blue, there were peacocks on the shutters and two large peacocks in different postures on the wall facing the fireplace and the *Princesse*. These peacocks have often been said to represent the artist and the patron—the proud peacock, Leyland, the humiliated peacock,

7, *Peacock Room with Jeckell's shelving on the right.*

[8] Howell notably dissented with his famous remark about the yellow scheme which he described as like being on the inside of an egg.

Whistler—but since the events which give them their symbolic meaning only happened after they were painted, and in any case the symbols have been variously read, this need not be taken seriously. The Room in February cannot have been anything but astonishing. The blue and gold must have been dazzlingly splendid, the enterprise original beyond measure, and the Room a virtuoso work without parallel in London. But the leather had gone and Leyland had never wanted to dazzle society; a taste for Zola and Balzac is hardly in accord with that sort of thing. But there it was, he was landed with Whistler's greatest arrangement even if unwillingly. At that moment all would have been well, for Leyland more than any of his contemporaries prized a beautiful thing, but Whistler over-reached himself.

Not satisfied with the hundreds who had already seen the decoration Whistler wanted the world to know. It was to be a succès d'acclamation or a characteristic piece of exhibitionism. All past failure, neglect, scorn, sense of failing power was to be washed away in a torrent of printed eulogy. To begin with a pamphlet was printed and could be picked up by anybody interested in various shops, including Liberty's. This pamphlet has apparently never been seen in recent times and was thought to have totally vanished. The Pennells, who saw Lady Haden's copy, suggested that it was not written by Whistler. They must have given it a very cursory reading.

HARMONY IN BLUE AND GOLD.
THE PEACOCK ROOM.

The Peacock is taken as a means of carrying out this arrangement.

A pattern, invented from the Eye of the Peacock, is seen in the ceiling spreading from the lamps. Between them is a pattern devised from the breast-feathers.

These two patterns are repeated throughout the room.

In the cove, the Eye will be seen running along beneath the small breast-work or throat-feathers. On the lowest shelf the Eye is again seen, and on the shelf above—these patterns are combined: the Eye, the Breast-feathers, and the Throat.

Beginning again from the blue floor, on the dado is the breast-work, BLUE ON GOLD, while above, on the Blue wall, the pattern is reversed, GOLD ON BLUE.

Above the breast-work on the dado the Eye is again found, also reversed, that is GOLD ON BLUE, as hitherto BLUE ON GOLD.

The arrangement is completed by the Blue Peacock on the Gold shutters, and finally the Gold Peacocks on the Blue wall.

The newspaper men came in February and Whistler had his success. Leyland was not there and legend has it that Whistler advised him to stay at Speke—'these people are coming to see the work of the Master, and you may, naturally, feel a little out in the cold.' *The Times* gave a long account, characteristically inaccurate in nearly every detail, E. W. Godwin corrected its errors for the *Architect* and his article was reprinted in the *Daily Courier*. *Punch* was facetious and, characteristically, unfunny. The *Standard*, *Pall Mall Gazette* and *Examiner* were full of praise. *London* reported: 'a paradise of peacocks, and a blending of Occidental audacity and Oriental taste, is a solitary spectacle, and has all the beauty that *bizarrerie* can give—all that, and something more.' The *Observer* congratulated Leyland, whom *Harper's Bazaar* termed a wealthy Londoner T. J. Leyburn, for having broken through the rules of conventionality. The *Academy* went: 'He has worked with immense zeal and spirit, and has produced a salient triumph of artistic novelty—too uniformly gorgeous, it may readily be conceived, for some tastes, but singularly captivating and complete . . . to say that the room is unique were to say little: it will long remain to the eye and mind a type of what artistic enterprise and conception *sui generis* can effect, in combination with opulence.' Jeckell's name was mentioned in this account. *Fun*, *The Builder* and *Building News* printed notices, and probably many other papers did so as well. By the test of inches printed Whistler had scored a triumph.

These reviews called forth a protest from Jeckell's brother. Poor Jeckell was by now insane and his brother, a Dudley brass founder, thought that he had been slighted. Of the correspondence only a draft reply by Whistler remains, but it has one or two interesting features, not least a reference to Leyland which illuminates his character. Whistler began by regretting that the reviews had not mentioned Jeckell's name more often, and went on: 'Your brother Tom was always one of my intimate comrades and we were greatly attached and in the sorrow that has come upon him no one has been more grieved than myself.[6] No one has more felt for you all in your distress. . . . I doubt if Tom counted among his admirers any more sincere and [rooted ?] than myself.' He promised to write to the *Architect* and *Builder* about Jeckell's share in the work, and continued: 'Whereas you may at present be suffering from a feeling of injustice done to my old friend Tom—I ought to tell you that he always cared for my judgment in his artistic work and I will send you a letter of his some day [which ?] I value, to show on what terms we were—It is therefore best that I should say clearly that the dining room at Princes Gate was when he had done with it not at all the "Peacock Room or Harmony in Blue & Gold." When it was given up to me to decorate, I worked out on my own responsibility this combination in blue and gold and took the Peacock as a means of carrying out the arrangement. Tom was absent and really never saw the room until the whole color scheme was nearly complete, and I had begun to gild on my own responsibility his lovely columns feeling sure that by this means the beautiful carving would for the first time be fully brought out—as was the case. Before in their original state of dull brown walnut it could only be made out on close inspection and across the room was quite invisible—I met with objection on the part of Mr. Leyland who really feared that your brother might be annoyed at his work being gilded without his previous consent—but I remembered that before now in the case of the Pavilion for Philadelphia he had asked me for the color, and so took the matter in my own hands feeling sure that Tom would be pleased, as he finally was. . . .'

Not a mention of the Room cracking poor Jeckell's brain! The letters Whistler promised to write have not been traced though he went so far as drafting them.

[6] But according to Menpes he said on first hearing of Jeckell's madness, 'To be sure, that is the effect I have on people.'

Of what happened after the press reception only the outlines are clear; in detail all is contradiction and confusion.

That Whistler and Leyland quarrelled is, of course, famous. According to the Pennells Mrs. Leyland came into the house one day in February and heard Whistler saying, 'Well! What can you expect from a parvenu!' She was supposed to have shown him the door. Something of the sort did happen—at least Mrs. Leyland seemed to confirm it when talking to the Pennells. And then Whistler asked, presumably after his ejection (if it ever took place), for two thousand guineas for his work—for work, that is, he had never been asked to do.

Whistler did not get his two thousand guineas, and may well never have anticipated getting them—he was cunning enough to have named this unlikely sum merely to wrongfoot Leyland. Rich man refuses to pay impoverished artist proper fee for work done. There was no contract, there was obviously a verbal agreement of some sort. Five hundred pounds has been mentioned as the agreed fee (a pretty generous one) but the further works, the whole Peacock Room in fact, had been done on the artist's responsibility.

Leyland is reported to have consulted Rossetti who advised him not to pay anything—this again cannot be proved, though as to the advice it should be remembered that Whistler already owed Leyland over a thousand pounds in advances on undelivered paintings. With really remarkable generosity Leyland paid him a thousand pounds. With really remarkable malice Whistler began abusing him for knocking off the shillings. It was, of course, customary for artists to get the shillings,[7] but all things considered the artist had been fortunate to get his pounds. The shillings question was only an excuse to declare war.

By April, 1877, hostilities had begun. Young Leyland wrote to Whistler: 'My dear Jim—Good-bye old fellow—any time you're passing call in—I leave Town this evening, & aint time to call. Hope you'll be on better terms with 49 Princes Gate when I return.' By July violent letters had been exchanged and Whistler telegrammed Leyland that he intended to publish the correspondence; why he did not do so will soon be seen. To this threat Leyland replied at length, beginning with the not insignificant fact of the payment of a thousand pounds. 'You choose to begin an elaborate scheme of decoration without any reference to me until the work had progressed so far that I had no choice but to complete it; and it is really too absurd that you should expect me to pay the exaggerated sum your vanity dictated as its value . . . . Five months ago your insolence was so intolerable that my wife ordered you out of the house—and to anyone with an ordinary sense of dignity I should have thought this was notification sufficient—The fact is your vanity has completely blinded you to all the usages of civilized life, and your swaggering self-assertion has made you an unbearable nuisance to everyone who comes in contact with you—There is one consideration, indeed, which should have led you to form a more modest estimate of yourself, and that is your total failure to produce any serious work for so many years.—At various times during the last eight or nine years you have received from me sums amounting to one thousand guineas for pictures, not one of which has ever been delivered.' Leyland ended—by the time so many newspaper puffs of your work appeared, I felt deeply enough the humiliation of having my name so prominently connected with that of a man who had degenerated into nothing but an artistic Barnum.' Whistler knew better than to print that—no clever little riposte would turn the tables there. For a parvenu it wasn't a bad letter. Leyland was an experienced man and could deal with stronger opposition than Whistler. When Plimsoll attempted to prove that the Liverpool shippers transported cattle cruelly they chose Leyland to represent them, and he proved the cattle were more damaged on their short English rail journeys than by the whole Atlantic crossing; Plimsoll was made to look wrong-headed, ill-informed and mischievous.

The 'artistic Barnum' retaliated by saying that he would send the paintings immediately. (He sent the portrait of Mrs. Leyland but seemingly not the F. R. Leyland.) 'Mrs. Leyland never ordered me out of her house—never uttered a discourteous word to me in her life—but what am I to think of the man who shirks the real question at issue and invariably screens himself behind those exalted feelings of respect with which I at least surround his family.' The relations between the Leylands were not good, or worse than that as Whistler implied, and perhaps Mrs. Leyland never did show him out, though she may have reported to her husband that she did. Mrs. Leyland continued to see Whistler up till the time of his marriage.

Leyland dealt with this or a similar letter in August. 'Sir, I return your letter—It is an ingenious puff of the work you have done at my house and it will be useful to you to keep it with the newspaper cuttings you are in the habit of carrying about with you.—An advertizement of this kind is of such importance in the absence of (or incapacity to produce) any serious work that I feel it would be an unkindness to deprive you of the advantage of it.' That is something more trenchant than anything in *The Gentle Art*.

Two undated Whistler drafts must belong to about this time. One suggests that he should 'not have recourse to the miserable means of offending your family through me.' (Leyland had apparently instructed his family not to see Whistler, and threatened the artist, in the best traditional style, with a whipping if he went to see the Leyland ladies.) The second expressed his feelings directly: 'It is positively sickening to think that I should have laboured to build up that exquisite Peacock Room for such a man to live in. You speak of your public position before the World, and apparently forget that the World only knows you as the possessor of that work they have all admired and whose price you have refused to pay—a great deal remains to be said or perhaps written upon that subject whenever one has time or occasion. With reference to your family, as a gentleman, little as you know about it, I could not do otherwise than recognize old friends when I met the ladies, who have always treated me with kindness and courtesy—Your last incarnation with a horsewhip, I leave to you to work out—Whom the Gods intend to be ridiculous they

[7] A delightful letter of Rossetti's about this has been printed. William Graham sent his first cheque in pounds. Acknowledging it Rossetti expressed surprise, but as Graham was such a very decent fellow he wouldn't mention the subject again. The shillings came in the next letter.

furnish with a frill.' The frilled shirt was of course being referred to. Leyland might have retaliated with the white lock. Perhaps he did.

How many more such letters crossed there is no knowing—many may still exist—but it is doubtful if they would be found to add much except by way of felicitous insult. Leyland did not keep any he received.

The interchange ended in farce. B. Verity & Sons, designers and manufacturers of lamps, candelabra, etc., sent a bill to Leyland at the end of 1877 for works carried out, presumably at Whistler's instructions, at 49 Princes Gate. Leyland told Verity's to send their bill to Whistler, and this they did.

'Gentlemen—I have received your letter of January 8rd. Mr. Leyland's suggestion is due to his keen sense of the ridiculous—In my relations with him, in the Peacock Room, I myself have found him certainly a comic man, —but I doubt if you will be led away by your enjoyment of his joke from what I fancy is clearly your legal remedy.

'Mr. Leyland refused to pay me my price for the decorations in his house and I should have been pained had he deviated from this simple course when he found himself face to face with your account.'

To Theodore Watts Whistler wrote: 'He promised me a whipping and sends me his gas bill! Mon cher these things are not done every day!'

To settle scores Whistler painted four caricatures, the most famous of which, *The Gold Scab*, has been reproduced more than once. It was sold with his other belongings when the contents of the White House were auctioned and had a very curious career after that.

Whistler's relations with Leyland and Jeckell were almost over. Nothing went right for the artist after the Peacock Room, so he declared. The action with Ruskin, in which only Albert Moore and W. M. Rossetti stood by him, meant ruin, and in 1879 came, in D. G. Rossetti's words, the arrangement in black and white. The liabilities were £4,641 9s. 3d., the amended assets £1,924 9s. 4d. Tom Jeckell was owed a hundred pounds but he was past caring about it. The meeting of creditors took place in June, 1879, at the Inns of Court Hotel. Sir Thomas Sutherland was in the chair, and with him were Sir George Lewis, the solicitor, Chelsea tradesmen, Howell, and the chief creditor, F. R. Leyland. When Whistler arrived he was so abusive towards Leyland that he had to be pulled down by Lewis and Sutherland. A committee of examiners, Leyland, Howell and Way, the dealer and printer (it is instructive to note that Whistler quarrelled with each in turn), was appointed and Whistler allowed to escape bankruptcy. He was most generously treated. Not very long afterwards he published an entertaining and nasty pamphlet about Howell, who, during the case and after it, had done everything he could with his own slender means to help him.

The 1879 meeting was probably the last time that Leyland and Whistler ever met. The acquaintance had been of fifteen years. In the circumstances of its termination only one of them emerged with any credit, either personal or financial.

Exits

Tom Jeckell

The Pavilion went to Paris for the 1878 Exhibition, at which Whistler and E. W. Godwin were represented as decorator and designer for William Watt, and after that Jeckell's name was unmentioned until he died, still insane, in August, 1881. He was given long obituary notices by the *Building News* and *British Architect*. After that his separate identity all but disappeared. He became only Jeckyll of the Peacock Room, although in 1904 a well-informed 'H' of the *Morning Leader* mentioned his Cambridge house as one of the earliest of the Queen Anne revival—but sadly styled him Henry Jeckyll. It was not until an *Eastern Daily Press* correspondence in 1937 and *English Architecture Since The Regency* that he reappeared as an architect in his own right—but the interest aroused was insufficient to save his works.

The life's work had been, considering the gifts displayed, a disappointing one; Jeckell, one feels, might have done much more. But the luck does not seem to have been with him. What he did do was fastidious and refined and with one exception he took the opportunities that came his way. The little that remains of his work will one day give much pleasure again.

Barnard, Bishop and Barnards have to all intents and purposes gone as well.

F. R. Leyland

Rossetti's life dragged miserably on until 1882 and Leyland, with William Graham, remained his chief patron, receiving some appalling works. When he was dying at Birchington Leyland called regularly. He attended the funeral bringing 'a lovely white cross' and he bought the famous Watts portrait. At Leighton's request he lent his Rossetti for the RAs commemorative exhibition. In Rossetti's will he was one of the few friends to receive a small present as a memento.

The picture buying was not over —Leyland built up a considerable collection of Italian paintings and continued to buy Burne-Jones. Of the entertaining done at Princes Gate there is little on record, though Walter Crane remembered a dinner at which the guests included Burne-Jones, Prinsep, G. H. Boughton, Tom Armstrong, Spencer Stanhope, Comyns Carr and Poynter, and 'another occasion [when] he and his daughters gave a fancy dress ball, which was largely attended by artists and their wives and daughters.' When William Rothenstein and Arthur Studd went to see the paintings at Princes Gate the bell was answered 'by a major-domo, with powdered hair, yellow livery with heavy knots across the shoulders and noble silk-clad calves.' Studd was so impressed he instinctively took off his hat.

While continuing to control the Leyland Line he extended his interests in the 1880s. He seems to have had something like a corner in the telephone and electric light industries.

Soon after the Peacock Room affair Leyland left Speke Hall and bought Woolton Hall—his taste in architecture was clearly a good one—and not long afterwards a third house, 'Villette' at Broadstairs (and the circumstances of its use suggest that the relations between he and his wife had further deteriorated). He did not die peacefully in any of them but unexpectedly and unceremoniously in an underground train between Blackfriars and the Mansion House on January 4, 1892.

He left over £700,000. The art collection was sold in May, 1892. *La Princesse* fetched 420 guineas (Freer paid £5,000 a few years later). Of the twelve large Rossettis *Veronica Veronese* fetched 1,000 guineas, *The Blessed Damozel* 980 guineas, *The Loving Cup* 820 guineas. The Burne-Jones prices were magnificent. Over £30,000 was taken, and some paintings were held back and there was a separate sale of the miscellaneous, and very valuable, objects of art. It was a remarkable collection.

49 Princes Gate was offered for sale in June, 1892. Bidding was opened at £15,000 and closed at £20,100 when it was withdrawn. The sale catalogue was largely a reprint of Theodore Child's *Harper's* article and full justice was done to Whistler's work. Mrs. Watney, the relict of the beer and a friend of Millias, bought the house in 1897 and intended to destroy the Peacock Room, a course from which she was dissuaded by, amongst others, Graham Robertson. She lived there until 1903.

An unworthy posthumous notice for Leyland was his brief appearance in one of the silliest novels ever written, Watts-Dunton's *Aylwin*. For a man who exerted himself so successfully in such a variety of ways it is astonishing how little has been recorded of his life.

Whistler

The last twenty-five years of Whistler's life are documented to the last detail—his every remark seems to have been written down. In only one respect is the biographical material inadequate (and the Pennells ingeniously hid this)—and that is in relation to his professional work. What, in short, did Whistler paint during the quarter century?

The later Whistler was nearly enough a parody of his earlier self. Whimsy-ironic letters to *The World* and *Truth*, a bathetic lecture, provoked quarrels, sartorial display, the effort of a man of sixty to play the juvenile lead, the assumption of Mastership, malice, arrogance—these and not much else were the later Whistler. He could and did descend to extraordinary pettiness and spite; his dealings with Sheridan Ford, Howell and Menpes are cases in point. Even Rossetti's declining years have some dignity compared with this. The Pennells printed a revealing story of the Master's last years. At an inn in Poole the landlord realized from his manner and appearance that he was a 'somebody' but did not recognize him. 'And who do you suppose I am?' Whistler asked. 'I can't say, exactly, sir, but I should fancy you was from the 'Alls.' He was not far out. Whistler and Wilde, society entertainers. Seeing him in his finery Degas called out, 'Whistler, you have forgotten your muff.'

After the Goupil exhibition of 1892 Whistler was intensely sought after. Freer's purchase of the *Princesse* has already been mentioned, the *Blue Wave* was sold for £1,000, Graham's Nocturne (Battersea Bridge) which went for £63 at the 1886 sale jumped to 2,000 guineas. Graham Robertson bought *Rosa Corder* for £241 10s. at the Howell sale, and sold it to Canfield for £2,000. In ten years Whistler had become the 'American artist.'

But Whistler was Whistler. When he was dying he said: 'Lowered in tone—the doctor says I am—well, you know, the result, no doubt, of living so long in the midst of English pictures.' The want of an appreciative and critical public had played its part in the debacle. It would have taken an altogether robuster and more powerful talent to have come through.

The Peacock Room

In 1904 the Room was sold to Freer, exhibited and shipped to the United States. There were protests that it was being snatched away by an 'American mushroom millionaire' as there always are when an intelligent and liberal American buys what English millionaires, mushroom or otherwise, refuse. The *Somerset County Gazette* and the *Yorkshire Observer* were particularly bitter. *Truth* recalled the whole story. 'At the Clubs men talked about the money—A cool thousand, by Gad, sir!—which was paid for the brown Cordovan leather alone. . . . In art circles men talked with bated breath of the wonderful effects the artist was evolving.' Twentieth-century journalism had arrived.

And now 49 Princes Gate is only an ordinary flatted house, with perhaps more beauty on one floor than on the others, but of F. R. Leyland's occupancy there is no sign.

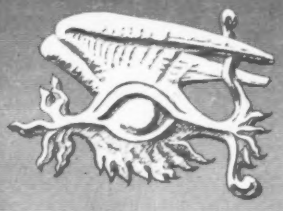
By the time the Peacock Room went the art cycle which it helped to inaugurate had been completed. The exotic, miscellaneous, large flower on slender stalk (like Mrs. Morris's head above that neck) manner in which every delightful fixture jarred with the one next to it had gone. The English architects had returned to their native and ignoble cottage shrines, seeking purification from low windows, oak beams, plastered walls and crooked tiles. They had become 'honest' and did not at all mind looking quaint and awkward. Insidious foreign ways were exchanged for the purer habits of the rough old English craftsman. No more peacocks, lilies, witticisms, Wildes; particularly Wildes.

Acknowledgments

For permission to quote from letters written by F. R. Leyland, J. M. Whistler and George du Maurier I am grateful to the late Lt.-Col. F. R. Leyland, D.S.O., M.V.O., The University of Glasgow, and Miss Daphne du Maurier.

To Mr. A. J. Notley for much information and drawings about Tom Jeckell. To Mr. Andrew McLaren Young, Mr. Geoffrey Leyland, Mr. John Hales-Tooke, Mrs. Iva Gregory, Mrs. Rossetti Angell, Mr. J. Farrell, Mr. Thouless, the Secretary of Barnards Ltd., Mr. P. Hepworth, the Librarian of Norwich Public Libraries, Mr. H. S. Goodhart-Rendel, and Mr. A. G. Wenley, Director of the Freer Gallery of Art I offer my thanks for assistance and in some cases hospitality.

8, *'The Gold Scab' by Whistler: caricature of Leyland.*



the exploring eye

The idea of an Arab skyscraper is not quite unknown to the well-read magazine-traveller, though the mental image that the words will conjure is almost certain to be one of those multi-unit agglomerations of tubular Berber dwellings on the fringes of the Sahara.

But something more like skyscraper form, something more like the silhouette of a 'down-town business area' can be found in Muslim territory much further east, in Wadi Duan, a remote branch of the equally remote Wadi Hadramaut in the little-known area of southern Arabia to the East of Aden. There, in Wadi Leiman and Wadi Leisa, which combine to form Wadi Duan, a native architecture, developed for stone-built villages on restricted sites, has created a square-towered system of building profiles which—as Simon Bowes-Lyon's photographs inside this fold-out will demonstrate—makes uncommonly American skylines, even when those skylines are, in fact, silhouetted against the face of a sheer cliff behind.

Map of the south coast of Arabia, showing the Hadramaut. The Wadi Duan branches off from the Wadi Hadramaut at Tarim, and leads to the Wadi Leisa and Wadi Leiman; at the top of the latter stands the village of Khoreiba (Khuraiba) which is among those illustrated inside this gatefold.

The contrasts and resemblances to American skyscrapers go some way beyond mere coincidences of appearance. The scale, of course, is minute by comparison, and the numbers of storeys are not even to be counted in fives. The congestion arose, in the first place, from the need to pack close for defence, and secondly, from the desire not to encroach on the exiguous tracts of fertile land on the Wadi floor. Houses, extensible vertically as the family prospered, were built on the lower, but often steep, sides of the cliffs—ranked in ever higher terraces, those at the back looking many storeys higher than those in front that hide their ground floors.

Yet, startlingly enough, these towerlets of blazing orange-brown sandstone answer fully to the Corbusian, or Mumfordian, image of clustered skyscrapers as symbols of long-range economic domination. Such wealth as these valleys can boast—and it is considerable in some families—comes from far away. The Seyid families who settled the wadis from the Yemen up to 600 years ago have kept their contacts with their old homes, and made contacts even further afield. The Aden coast is the traditional centre of ship-borne trading operations that have scattered Muslim communities right across the Indian Ocean. The wealth of the Seyids of Wadi Leiman came from trade and building operations that used to extend as far as Jakarta and Singapore—indeed, the cash with which the traditional feuds of Wadi Hadramaut were settled, came from the coffers of an Hadrami who had traded in Singapore.

Nowadays, currency restrictions have clipped the wings of Seyid enterprise, but they still trade as far afield as Jeddah, as Ethiopia and even Dar-es-Salaam.

valley of towers

1

1 and ***2,*** at first sight, these towers among palm trees could almost be one of the resort-cities of Latin America, until one looks closer at the details of the architecture, the spacing of the windows, the crestings of the parapets—all unmistakably Muslim, and all unfamiliar since these villages of the Wadi Duan (this one is Gweira) and its tributaries have not been photographed for Western journals before. The truth of the matter appears most strikingly in ***2,*** a view up the tributary Wadi Leisa over the village of Talilah, which shows with almost diagrammatic clarity the relationship between the village, pushed back up the side of the cliffs, and the fields and palm-groves in the Wadi bottom.

3 and ***4,*** although most of these villages conform to the same pattern of densely developed sloping sites, none shows it to more dramatic effect—in photographs at least—than Kh
Leiman
town of
ants, it
escarpm
towers,
when or
fall into
crumble
upper st
sinister
science-f
after th

3

4

2

than Khoreiba at the head of Wadi Leiman. A prosperous and well-kept town of some four-thousand inhabitants, it piles back up a spur of the escarpment in a romantic cluster of towers, terraces and domes. But when one of these towns begins to fall into decay, as in **4**, with its crumbled walls and incomplete upper storeys, it begins to take on a sinister and theatrical aspect, like a science-fiction vision of New York after the ultimate atomic conflict.

5, inside a town like Khoreiba, the streetscape fulfills the promise of exterior views, with steep, narrow streets, restricted to donkey traffic since they would be impassable to camels, constantly bridging and tunnelling to serve different levels of the town. Their narrowness and depth between the buildings keep them in deep shadow for most of the day, an important planning consideration in a climate that can beat 130°F. in the summer.

5

ID

a monthly review of interior design

Showrooms at Ipswich

architects : Michell and Adams

2

SHOWROOMS AT IPSWICH

Intended to provide display and conference space for a progressive printer in a provincial town, this scheme has a first-floor reception area and conference/exhibition room, with ground floor entrance and staircase leading up to the higher level, where there is also a new office for the managing director of the firm.

1, opposite, a corner of the conference/exhibition room; the walls are panelled out in olive walnut. The display-fitting on the far wall has a steel frame supporting the shelf and drawer unit; the deep drawer-chest at the right stands directly on the floor, and provides storage for print specimens. Drawer fronts and cupboard doors on both types of unit are in Brazilian Freijo.

2, view down the side of the conference/exhibition room, showing the three display units, and the reception area in the distance. This side of the room is treated as a long, continuous vista, whose perspective is enhanced by the lower, boarded ceiling.

3, the reception area; the desk is in mahogany, with a grass-paper backed display unit behind it, in Bombay Rosewood and Brazilian Freijo. A glass screen, with glass door, closes off the entrance to the conference/exhibition room.

3

1

Bookshop in Baker Street, London

architect: David Rock

2

New accommodation for London's oldest-established bookshop has been fitted into two bays of Berk House, a characteristic concrete-framed office block by Cecil Elsom in Baker Street. The bay-division is effected by a structural column flush with the face of the building and cannot be disguised. It has been exploited, however, by recessing the front in one bay, and taking the entrance through the side of the recess.

1, the recessed entrance bay, with doors, of bright steel and plate glass strips, at left. The main window is a single plate of glass, with the Royal Arms sandblasted on a separate sheet carried on two steel uprights just behind the window. The main artificial illumination comes from above the visible ceiling of copperised vertical steel slats, which also conceal pipe-runs, structural beams, etc.

2, the public staircase down to the basement sales-area, built of mild steel, with African walnut handrails and treads of terrazzo carried in two-inch deep mild steel trays. Flooring throughout the sales-area is of black veined thermoplastic tiles.

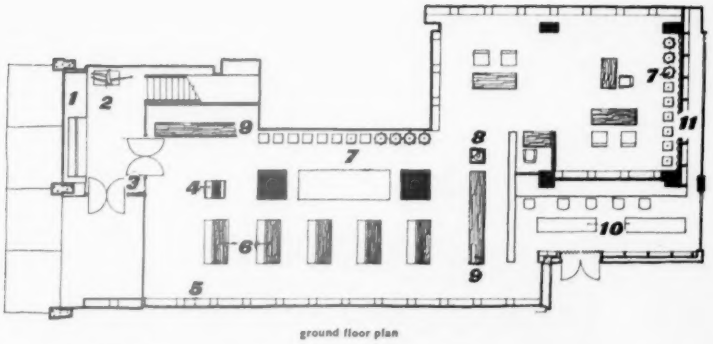
3, opposite, a view parallel with the street from the recess, through the entrance into the smoke-lobby separating the ground-floor sales area from

the basement—the doors to the ground floor are on the right immediately beyond the display case, the stairs down to the basement are against the far wall. The ceiling-slats are here seen edge-on ; the sculpture, *Fallen Bird* is by Bernard Meadows. Another piece of sculpture, *Homer*, by F. E. McWilliam, faces the visitor from the depths of the shop when he enters the ground floor sales-area.

4, a partial view of the back part of the ground floor. The ribbed panelling is in grey-stained Abura, the chairs in black leather with matt-black steel frames (by Conran), the low table top in polished Derbydene marble, and the bookcases against the end wall revolve to give maximum display-shelf space in a restricted volume.

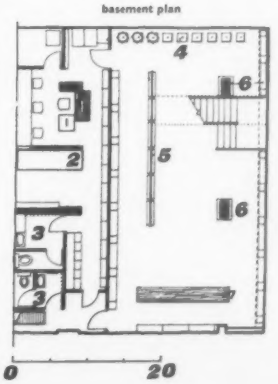
3

4



ground floor plan

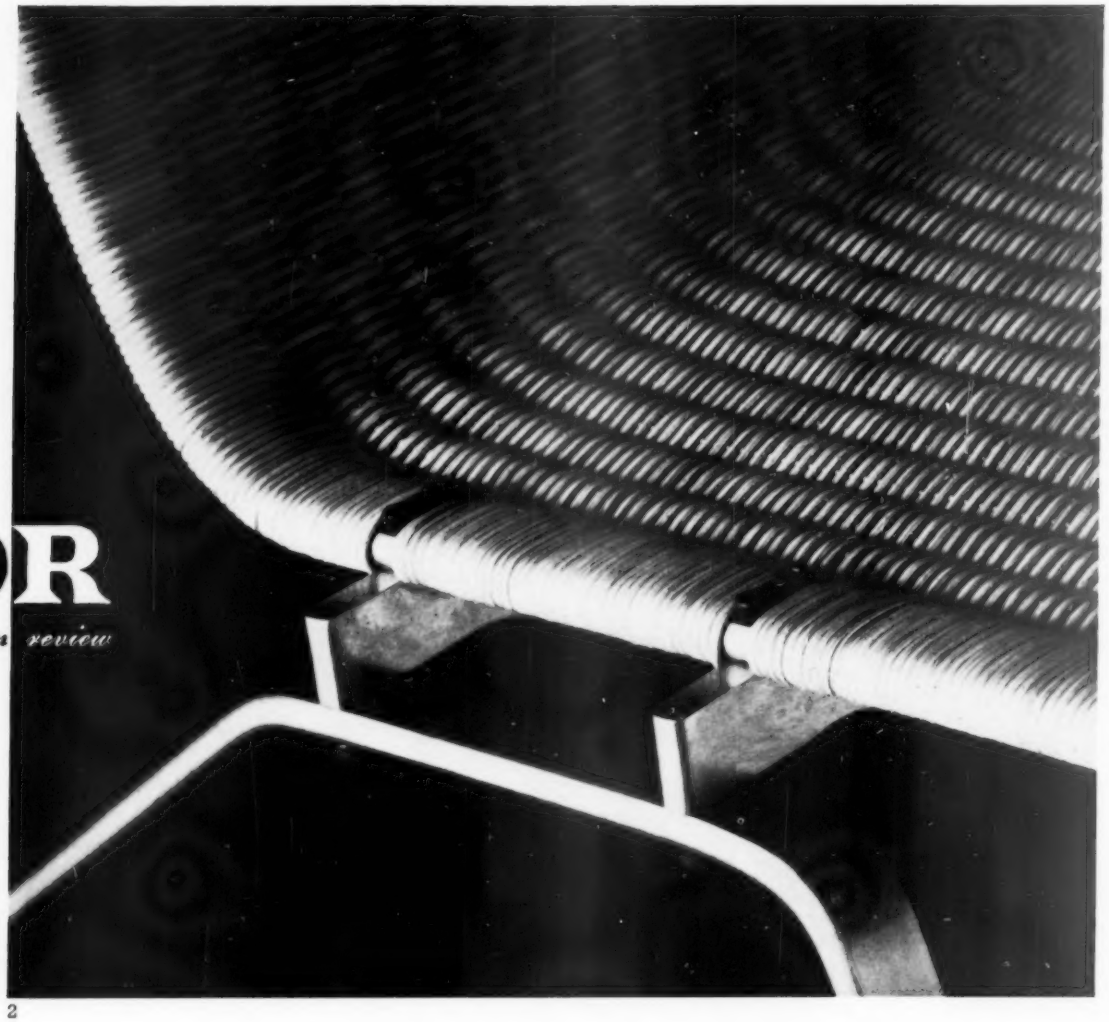
basement plan



Key to basement plan
1, telephone exchange
2, packing table
3, w.c.s
4, revolving stacks
5, greeting card fitment
6, shelving
7, counter

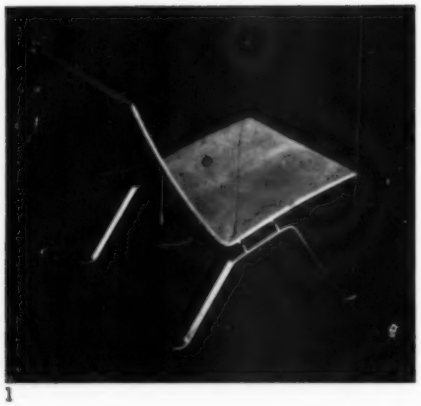
Key to ground floor plan
1, window display
2, sculpture by Bernard Meadows
3, movable display board
4, exhibition case
5, shelving
6, display and couch
7, revolving stacks
8, sculpture by F. E. McWilliam
9, counter
10, packing benches
11, storage corridor

DR
design review



2

3 → 4



1

Kjaerholm Range

Poul Kjaerholm was awarded the Grand Prix at the Triennale Milan 1957 for his leather chair and he was joint winner with Signe Persson-Melin of the Lunning Prize 1958. He left the School of Industrial Art, Copenhagen, in 1952, and has since become acknowledged as one of Denmark's leading furniture designers. He is admired for his ruthless insistence on perfect detail and workmanship and the clear sighted logic of his functional approach to furniture. He uses steel for rectangular section frames combined with natural materials: leather, wood, slate, cane and rope.

His furniture is immensely assured. It is uncompromising and therefore makes stringent demands on the rooms in which it is used, but it has a sculptural appeal capable of adding distinction far beyond the purely functional. It is made by Kold Christensen of Copenhagen and much of it can be bought at Woollands.

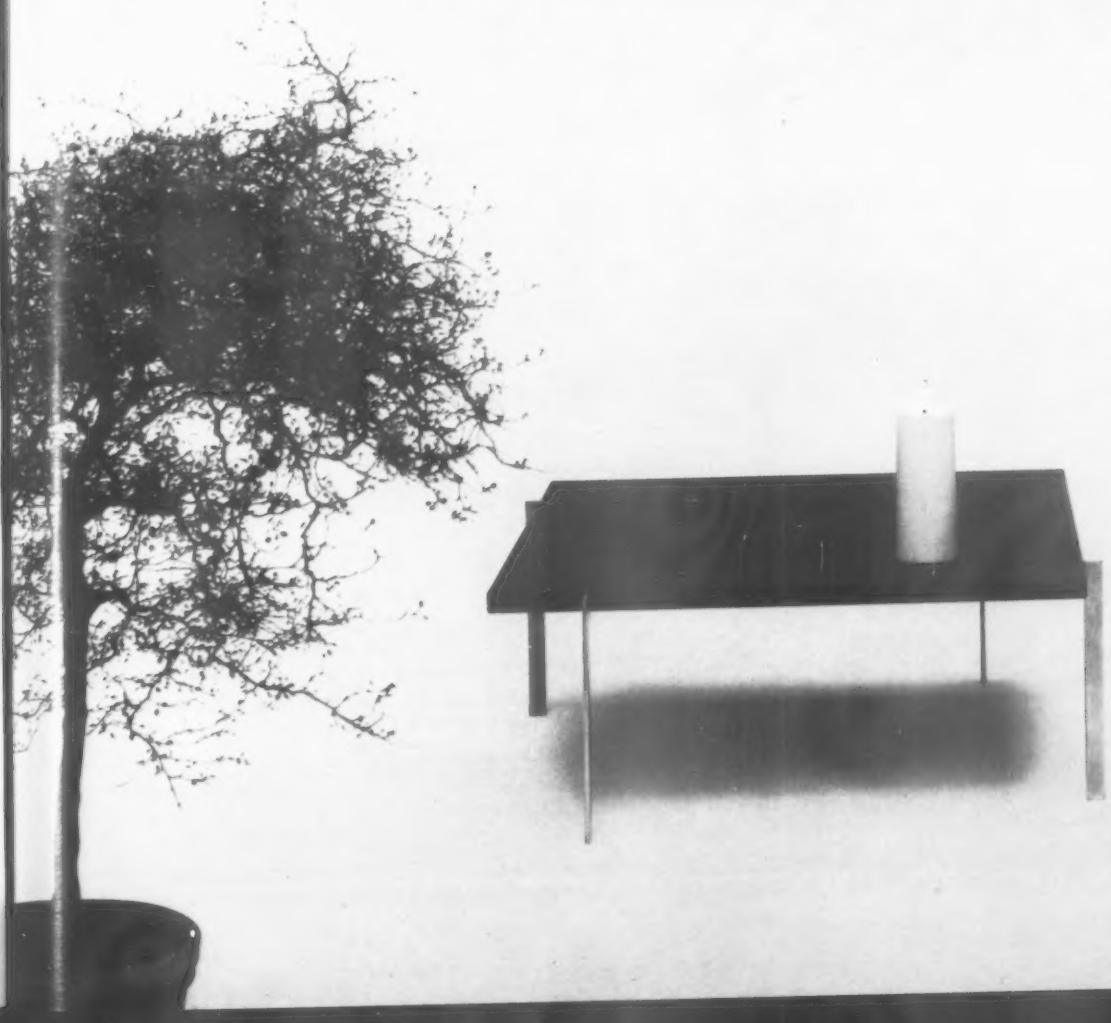
***1,** the prize-winning leather chair shows a marked resemblance to Mies van der Rohe's Barcelona chair. The leather cover is fixed to the webbing seat by neat turn-buttons which allow it to be removed for packing and cleaning. It is diagonally stitched and the leather can be black, tan, red or parchment colour. It costs approximately £36.*

***2,** a cane version is also made, and a detail of the frame is shown. The legs can be unscrewed from the seat supports for packing.*

***3,** the low table, opposite, has an ash top with steel legs. The chair has an ash backrest and leather covered seat.*

***4,** opposite, a low coffee table has a slate top approximately 31 in. square placed loosely on a steel frame of four rectangular sections screwed together. It costs about £20 and is also made with a glass top.*

3
↓
4



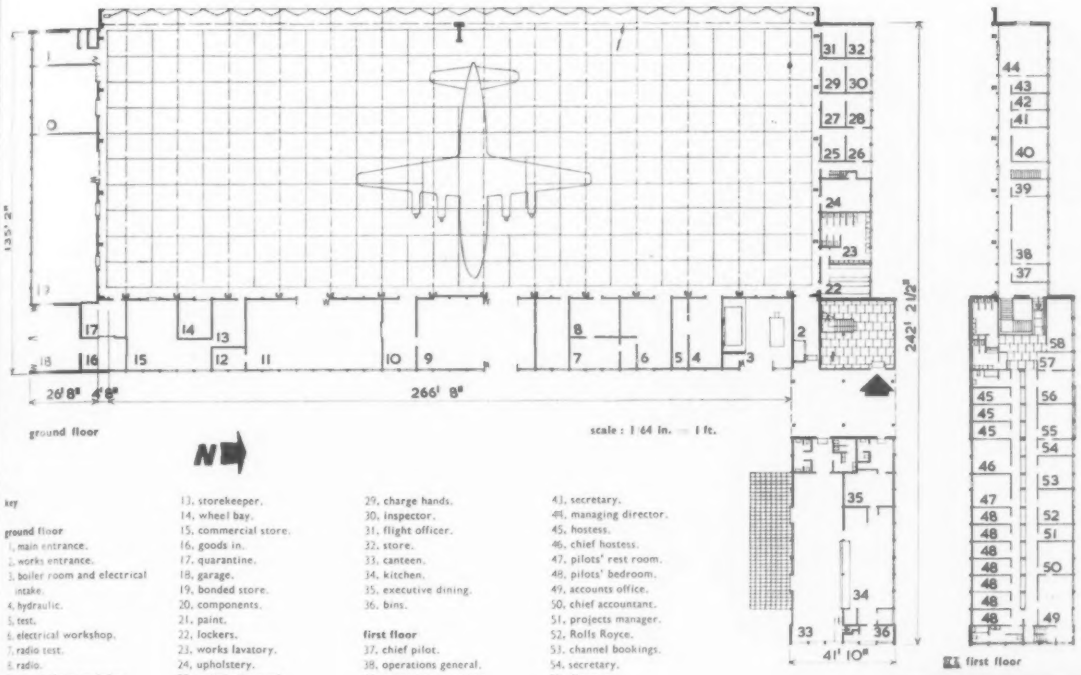
1, *the hangar roof structure, of interconnected triangular precast and prestressed space frames.*

HANGAR, OFFICES AND WORKSHOPS AT GATWICK AIRPORT

ARCHITECTS: CLIVE PASCALL AND PETER WATSON

These buildings provide an operational base for an independent airline at Gatwick Airport in Sussex, and consist of a 282-ft. long hangar surrounded on three sides by annexes containing workshops, stores and offices, with a prestressed concrete apron in front. The roof of the hangar has interconnected 112-ft. triangular precast and prestressed space frames spanning the width of the building, with 8 ft. 8 in. deep triangular secondary beams. One wall of the hangar is entirely filled by the power-operated sliding folding door and a high standard of daylighting is ensured by continuous patent glazing on three sides above the roof level of the adjoining buildings. The hangar is used primarily as a workshop and takes five planes.

The construction of the ancillary buildings is completely independent of the hangar and consists of precast r. c. frames expressed externally, and with infill panels consisting of aluminium windows and glazed between the windows to match the patent glazing of the hangar.



key

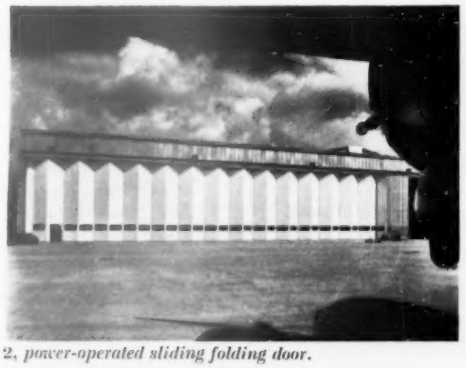
ground floor

1. main entrance.
2. works entrance.
3. boiler room and electrical intake.
4. hydraulic.
5. test.
6. electrical workshop.
7. radio test.
8. radio.
9. power plant workshop.
10. cleaning bay.
11. detail workshop.
12. view room.
13. storekeeper.
14. wheel bay.
15. commercial store.
16. goods in.
17. quarantine.
18. garage.
19. bonded store.
20. components.
21. paint.
22. lockers.
23. works lavatory.
24. upholstery.
25. technical records.
26. chief inspector.
27. hangar foreman
28. chief engineer.
29. charge hands.
30. inspector.
31. flight officer.
32. store.
33. canteen.
34. kitchen.
35. executive dining.
36. bins.

first floor

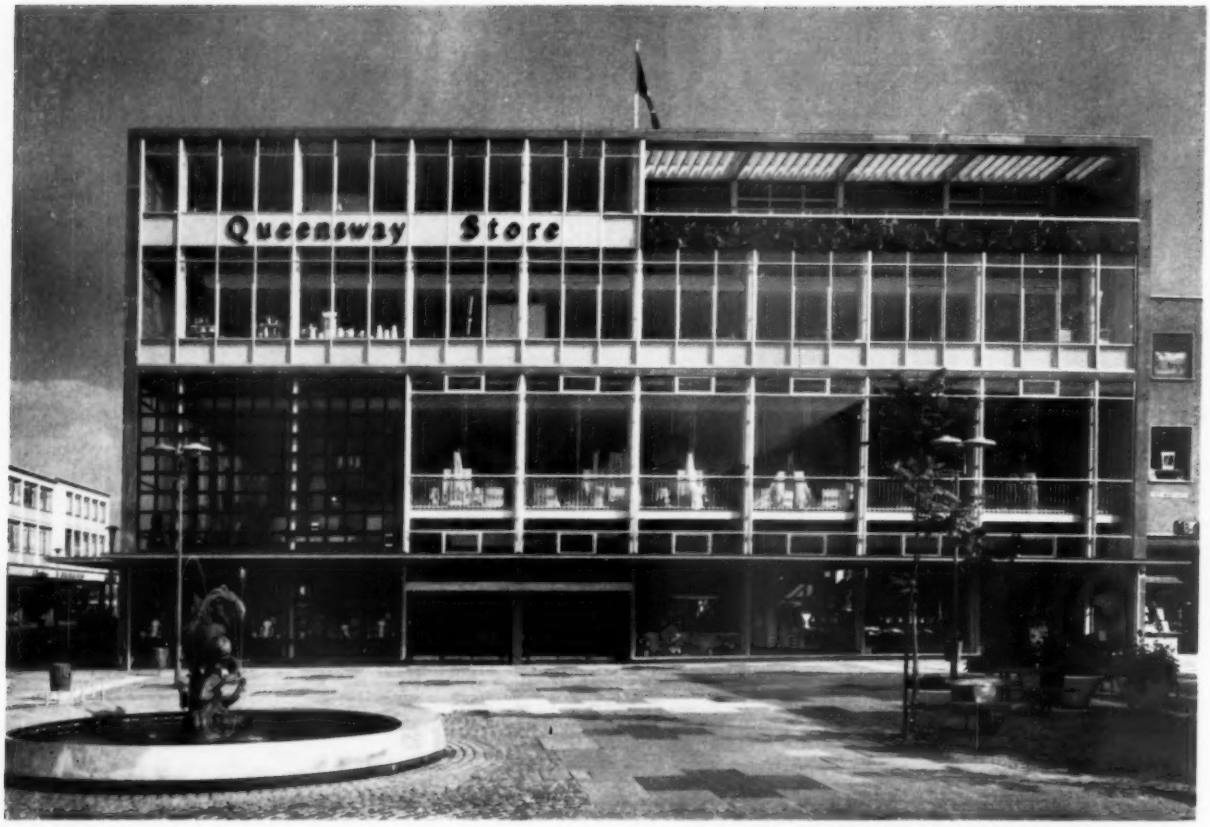
37. chief pilot.
38. operations general.
39. operations manager.
40. public relations.
41. air trooping.
42. waiting.
43. secretary.
44. managing director.
45. hostess.
46. chief hostess.
47. pilots' rest room.
48. pilots' bedroom.
49. accounts office.
50. chief accountant.
51. projects manager.
52. Rolls Royce.
53. channel bookings.
54. secretary.
55. director.
56. commercial manager.
57. secretary.
58. telephones.

Hangar, Offices and Workshops at Gatwick Airport



2, power-operated sliding folding door.

3, from the south at dusk, showing hangar with workshops in foreground and two-storey canteen and sleeping quarters on right.



4, main elevation of building facing the town square.

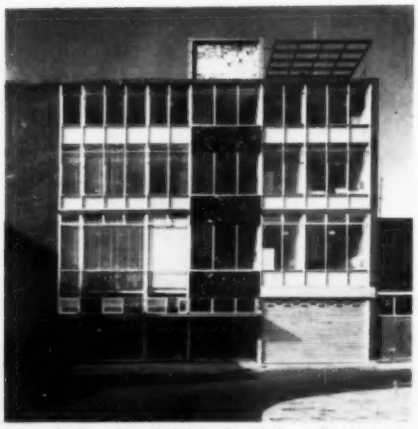
STORE AT CRAWLEY

DESIGNERS: GABY SCHREIBER AND ASSOCIATES

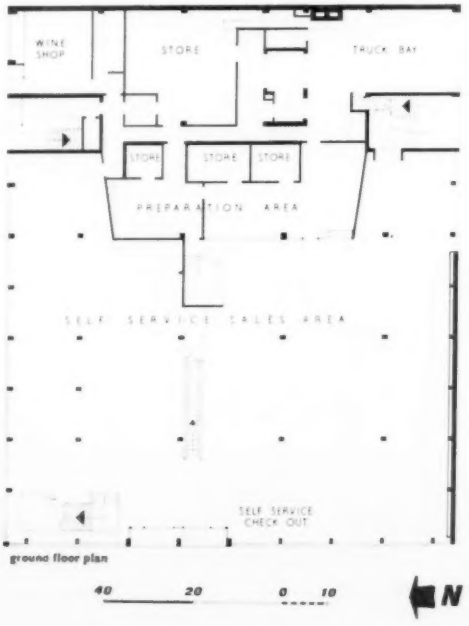
ASSOCIATE ARCHITECT IN CHARGE: R. G. THOMSON

Situated at the head of Queen's Square, the principal shopping precinct of Crawley New Town, this four-storey building contains both a self-service food market and a department store. The store is steel framed, with the spacing of bays determined by the position of the two escape staircases and arranged to keep the sales area as free from columns as possible. All vertical steelwork is encased in concrete and floors and roof are of hollow-tile reinforced concrete slab construction. The external glass walling has polished anodized aluminium frames and the roof is finished with built-up felt laid on ½ in. insulation board and covered with white spar chippings. A system of plenum heating combined with unit heaters allows the circulation of cold air in the summer. Lines of fluorescent fittings are augmented by tungsten lights over sales fitments and chandeliers over the mezzanine floor.

5, third floor internal court; offices on the left, canteen and cloakrooms on the right.



6, south elevation showing aluminium shutter to the truck bay.



ground floor plan

EXHIBITIONS

PLATE AND PAINTINGS

There was a moment when the impassive face of Ian Fleming's latest villain showed a flicker of animation. 'Mr. Bond,' he said, 'all my life I have been in love with gold. I love its colour, its brilliance, its divine heaviness.' Thus far I am with Mr. Goldfinger. But his ambition to turn all the gold of the world into ingots is decidedly villainous. Already far too much of it is turned into ingots and hidden away in strongrooms. I dream of a return to barbaric display at Government level, following the conversion of our entire gold reserves into 'all manner of wonderful objects,' like those seen by Albrecht Durer in a great pile of gold looted from Mexico a year before Cortez conquered the Aztecs, and of which he so surprisingly wrote in his diary: 'All the days of my life I have seen nothing that has gladdened my heart so much as these things.'

Pre-Columbian objects have a way of looking as if they were made to please the sun which is not shared by the cups, tankards, candlesticks and ewers included in the Cambridge treasures recently lent to the Worshipful Company of Goldsmiths by the Colleges and University and the Fitzwilliam Museum, and very nicely displayed at Goldsmiths' Hall. These were all examples of secular plate and lacked the symbolism that equates gold with the sense of glory; nevertheless, the fine spread of golden objects in the main room had something of the tranquil authority of a sleeping lion. In other rooms there were glints here and there of the symbolical evaluation of the king of metals; in some of the illuminated manuscripts, in the gold leaf backgrounds of three panels of saints from a Sienese polyptych, and above all in Samuel Palmer's successful experiment with alchemy in the Fitzwilliam water-colour called 'The Magic Apple Tree,' where a rounded hill of ripe corn assumes a mystical golden splendour and approaches the sacred sensuality of the Song of Songs.

One more word about gold and I'll have done. None of the ecclesiastical plate of medieval Cambridge has survived. The work of confiscation and destruction started by the Commissioners of Edward VI was completed by Matthew Parker when he became Archbishop of Canterbury on the accession of Queen Elizabeth. But his efficiency in this respect does not seem to have sprung from iconoclastic zeal, for he not only identified himself with the party that sought to establish a *via media* between Romanism and Puritanism, but was a generous donor of secular plate to three of the Cambridge colleges. Rather a decent type, I should say. He was included in the selection of portrait paintings, 1,

1

which ranged from Cranmer, who licensed Parker to preach, to one of the Mistresses of Girton College, painted by Stanley Spencer.

Most of the portraits of historical personages were conventional enough, and their interest was in strict ratio to the fame of the sitters, but there were one or two exceptions, and the liveliest of them was a portrait of Sterne by Thomas Patch. It depicts Sterne bowing mockingly to a skeleton with a scythe, and I think he would have enjoyed the sequel if he had been given the opportunity of doing so, for his own skeleton was preserved at Cambridge for many years. Someone ought to have done a painting of Death presenting a scythe to Sterne's bones.

2

There were many fine things among the old master drawings and paintings. The drawing by Rubens of the naked back of a male nude, 2, is a superb rendering of flesh, and if I found it vaguely distasteful it is probably because I read D. H. Lawrence too religiously when I was young, for although it brought to mind Lawrence's descriptions of miners having their backs washed by discontented wives, the flesh is too soft and plump to represent Lawrence's conception of maleness.

Rubens would probably have shuddered at the sight of Gruber's skinny female figures and no doubt Lawrence would have seen them as a horrible symbol of the destructive element in woman.

The odd canvas or two which appeared from time to time in a dealer's gallery or a travelling exhibition did not prepare us for the Francis Gruber retrospective which was brought to the Tate Gallery by the Arts Council. Many of us had taken it rather too much for granted that his paintings of lean neurotic-looking women were obsessional and that he was still ringing the changes on this image of misery and disillusion up to the time of his death in 1948 at the age of thirty-six. The symbolical paintings with their surrealist overtones came as a complete surprise and showed that he was much more involved in some of the philosophical aspects of the modern movement than we had supposed. Then, again, although the women in his post-war paintings remain on the lean side and look as if they haven't bothered much with their figures, the opportunity of comparing them with earlier paintings afforded by the Tate show makes it evident that they are not intended as images of wretchedness and that their impact arises from the intransigence with which Gruber has depicted their nakedness. His 'Portrait of a Woman,' 3, painted in 1939, is the last word in disconsolation, but the study of a different model in precisely the same setting, 4, painted in 1944, creates quite a different atmosphere. It's not the last word in gaiety, but it's painted with a warm appraisal of the undistinguished figure, and

3

4

the setting is no longer a substitute for the abyss.

One critic who seems to have been thoroughly upset by Gruber's connections with surrealism, as if he thought that they in some way reduced his sincerity, contemptuously dismissed the series of feminine figures as a strip-tease because he noticed that the earliest on view is fully clothed and the last one naked in the back garden with flowers in her hair, and that, in between, some of them are in nothing but an open red cardigan. I think that this critic drew monstrously spiteful and disagreeable conclusions from observations which were not in themselves incorrect. Gruber's work was steadily becoming more and more sensuous and refined, and at the last he was arriving at a profound acceptance of the human condition: the critic who can relate Gruber's vision to popular pornography is on the way to jeering at Rembrandt's studies of Hendrickje Stoffels.

The gallery of H. Terry-Engell, in Bury Street, St. James's, recently held a soberly pleasant exhibition of nineteenth-century French landscapes which took its bearings from the Barbizon school and included many works of a later date painted in the same manner by artists whose names, I must confess, were previously unknown to me. It was open-air painting without impressionist colour, and after a while the sobriety and 'timelessness' gave me an odd feeling of loneliness. Apart from a rare glimpse of a peasant, these landscapes were deserted, and when at last I came upon a landscape by a painter named Laurens, 5, my relief and pleasure were unbounded, for it contained two young women who had obviously come from town. My response was ridiculously out of proportion to the occasion, since the picture, which put up a

5

very good show of having been painted outdoors, was all too evidently based on a photograph; but the women gave it time and circumstance and I shall always recall it with delight.

The paintings which Bryan Wynter has just been showing at the Waddington Galleries constitute his most important exhibition to date. He has very properly abandoned the attempt to adapt his sign language to illustration. His signs hang in long narrow clusters from the top of the picture, like strings of onions, and they seem to be the issue of a delicately promiscuous association between Chinese script, magnified bacteria and small machine-parts on the one side, and analytical cubism and some aspects of the art of Matta on the other, 6. The effect is extremely decorative, and although the expressiveness of this language is limited, Wynter varies the predominant coloration in a way which produces a charming air of poetic moodiness.

6

Anna Salvatore, the Roman-born neo-realist, whose latest show at the O'Hana Gallery has the distinction of being introduced by Alberto Moravia (I seem to recall that her show at the Trafford Gallery had the same distinction) takes a robust if faintly operatic interest in the pleasures of teen-agers, 7, and she cleverly catches the gawky resilience of rock-'n'-rollers.

7

But her paint has an unpleasant quality of fluffy uncouthness, and her drawings remain the most presentable aspect of her work.

Nicola Simbari, another painter from Rome, recently shown at the Arthur Jeffress Gallery, has a much more subtle feeling for paint, and although he is at present slightly intoxicated by the speed and fluency with which a few turns of his brush can give an abstract a figurative content, his work has the kind of elegance that sometimes enchantingly renews the charm of a faded theme. 8.

Robert Melville

WORLD

BELL TOWERS IN EUROPE

The campanili of Italy are, of course, famous, especially those of the north of the country, but many examples still exist of a type of bell tower which is comparatively unknown—that is the detached timber bell tower of Sweden, which, being the work of local peasant craftsmen, was a special kind of folk art.

It is said that Paulinus, Bishop of Nola in Campania, may have been the first man to apply large bells to churches round about A.D. 400. At any rate, for about a thousand years up to the time when the Renaissance dome began to supersede the Mediaeval tower, the effect of bells on architecture was immense. There was power in the bells and so they were often the jealously guarded property of the burghers and the citizens rather than of the priesthood and the chapter. Therein may lie one reason why bell towers were so often built detached from churches.

In most parts of Europe, but especially in the North, bells were believed to possess mystical powers as well as practical ones. They could be used to drive away evil spirits and they formed a protection against trolls, fire and lightning. Witches knew well the value of the grease that could be scraped from the bell axles.

In the seventeenth century nearly every church in Sweden had its separate bell tower and in spite of the depredations of time and of the Russian invaders, no fewer than 450 of these towers still stand. The typical selection illustrated here reveals the charm and variety of their forms.

Detached timber bell towers exist in other countries and it can be said that a Timber Tower Belt stretches from the Carpathians right across Hungary, Eastern Germany, Poland, Russia, Denmark, Finland, Norway and Sweden. In the Carpathians stone structure seems to have been the prototype and there the Renaissance was the best period. But in the Baltic countries the timber tradition goes back to pagan times, although the Baroque period produced in the end the best and most varied expression. The finest flowering of the craft occurred in Sweden—if we exclude the southern plain of Skania where the towers, as in Norway, tend to be small, unvaried and rather dull, perhaps because Skania did not form part of Sweden until the Peace of Roskilde established the country's natural boundaries in 1658.

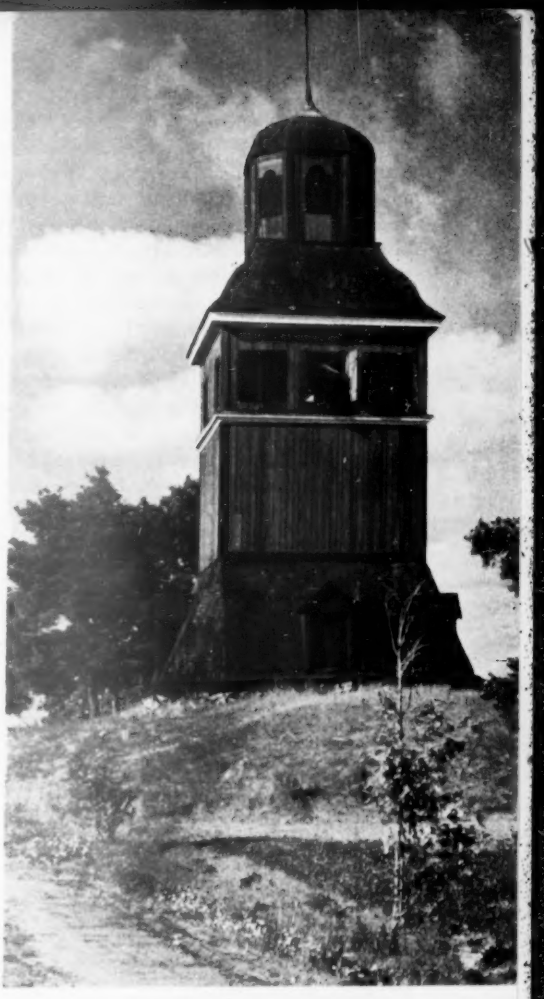
Why were these towers built detached from their attendant churches—sometimes even when the church itself already possessed a tower? One possible reason has already been given. Another reason may have been that the great weight and movement of the bells required a stable, well-founded structure which the church itself could not provide. Or perhaps—since the bells were valuable both in money and in their mystical associations—it was wise to guard them against fire in a land of timber building where fires were frequent and disastrous; the church itself might burn, but the bells and the bell tower might survive. Perhaps in the end the separate tower became mainly an exuberant aesthetic expression of proud and specialized craftsmen.

Some of these Swedish towers were built to a great height so that their bells could ring out across the lakes and forests to the widely scattered populations. They tend to show regional distinctions in design, but two general types are evident—the Open Trestle or 'Bock' type, 1, and the Enclosed Tower or 'Torn' type (which may have had a precedent in the seige tower of elm), 2, 3. Both types seem to have been built since early times and often the two are combined in one structure, 4. The earlier examples are all protected by steeply sloping roofs of shingles with gable ends, while the later ones often have very tall spires shaped with ogee curves and onion domes.

The trestle type is most common in

1

2



3

4

1, *open tower at Skagershult.*
2, 3, *enclosed or Torn towers.*
4, *combined trestle and enclosed tower at Visingso.*

central Sweden, but the tower type is also found there. In Östergötland the towers are mostly square in plan. Västergötland has a speciality in the seventeenth-century pyramidal form, all enclosed with boards, 5. Jämtland was keen on an octagonal plan during the latter half of the eighteenth century. The Dalecarlian examples are mainly a combination of the trestle and tower types. The pure and open trestle type is found mostly in central and southern Sweden—Småland, Västergötland and Bohuslän up to Västmanland and Uppland. Farther north, no doubt for protection against the more severe climate, most of the towers are enclosed and of the pure tower type. Uppland and Västergötland

5, *pyramid tower at Vastergotland.*

possess the largest number of surviving towers.

The oldest surviving example of a timber bell tower in Sweden, and a fine one of the pure trestle type and typical in having its pine posts protected by tarred shingles of oak, is that at Söderköping, the old port and spa town in Östergötland. The work of one Anders Staplamakare, it was built in 1582, but is undoubtedly mediaeval in character.

How old is the tradition? A rune stone at Harg in Uppland erected in the first half of the twelfth century depicts a bell tower and a man below pulling the bell rope, probably as a death toll, 6, and this suggests that Paulinus, Bishop of Nola, was not the first man to apply large bells to churches. Another record of a bell tower is found on a twelfth-century tapestry from Skog in Hälsingland which depicts a square bell tower in a formalized manner. Interesting features of this depiction are the two carved dragons' heads projecting from the gable corners which reveal a link with the Norwegian stave churches, 7.

These stave churches are directly descended from the timber temples of the heathens, like that famous one which is known to have stood at the heathen centre

6, *twelfth century rune stone in Uppland.*

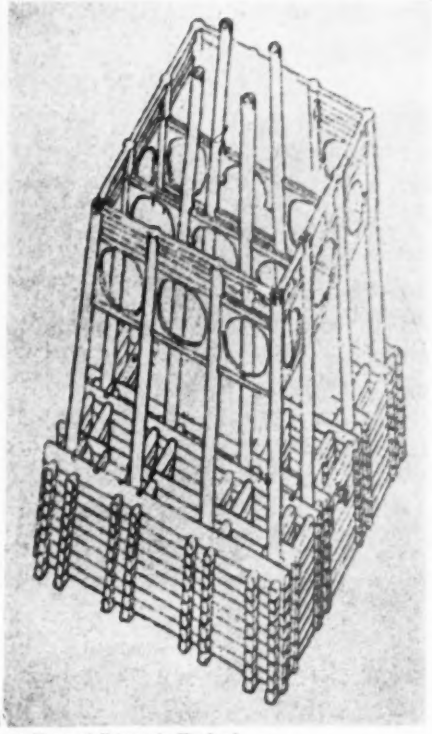
of Uppsala. In his reconstruction of this Uppsala temple, Sune Lindqvist has in fact relied on the bell tower at Häverö in Uppland as a structural descendant, 8. Among the oldest to survive and one of the most remarkable in the country, it has a grid plan of sixteen round posts sloping slightly inwards; the lower parts of the posts are joined by a double row of horizontal axed timbers, slotted at the junctions as in log-cabin construction, the spaces between being filled with stones to give stability to the tower.

Another example which strongly suggests the ancient timber tradition of the

7, *stave church in Bergen.*

North is that at Trönö in Hälsingland with its solid, shingled posts, its steep shingled roofs and its decorated barge-boards and hips, 10, page 431. This example, which combines the tower type with internal trestle, stands over an enclosed hut, an arrangement which is fairly common in Hälsingland. These huts were sometimes used as armouries.

The best surviving towers belong to the seventeenth century and to the first half of the eighteenth century. In them the baroque influence is evident in the vigorous ogee curves of the tall steeples. These ogee curves were borrowed from the more monumental and sophisticated buildings of the towns, but the onion domes are probably an import from Russia. It is significant



8, *Havero bell tower in Uppland.*

that Jämtland, a northern province, specialized in these oriental domes, though a delightful example can be seen as far

9, *onion dome at Karlstorp in Smaland.*

10, Trono tower in Halsingland.
11, new tower at Karlskoga-Bofors.
12, lake-side lighthouse.

south as Karlstorp in Småland which was built in 1744, a year after the war with Russia ended, 9.

The craftsmanship of these eighteenth century towers is superb. Local schools of bell-tower builders were founded whose members, recruited from the local peasantry, developed a great pride in their skill. Even today the names of many of these craftsmen are remembered. Among the most famous was Per Persson i Stugun (1732–1815), a peasant who is known to have built one stone church, seven timber churches and six separate timber bell towers. A copy of one of his towers—that at Håsjö in Jämtland built in 1770 and standing 69 feet high—can be seen at Skansen, the open-air museum at Stockholm, 13. It has an octagonal plan and a typical baroque spire with ogee and onion; most of it is covered with oak shingles protected with a mixture of tar and the unique Falu red paint of Sweden.

Another famous tower builder was Nils Uhrberg who was responsible for the tallest tower in Sweden at 138 feet—the one built at Hällestad, Östergötland, in 1732. It was presented to the Nordiska Museum by the Hällestad community in 1894 when their church burned down and it now stands at Skansen. This is a masterly work consisting of twelve pine pillars on a square plan supporting an enclosed bell chamber above which rises the baroque spire converted by broaches into octagonal forms. The whóle is covered with the typical oak shingles, tarred for protection,

13, Hasjo tower at Skansen.

which give so many of these structures their textural character, distinctive and bizarre. Within the main pillars are cross timbers surrounding an enclosed staircase, forming the combination of the common tower and trestle types.

Bells have lost their ancient power to the banshee sirens and separate timber bell towers are now rarely built in Sweden except as revivals of a tradition which almost died out towards the end of the eighteenth century. Nevertheless, the tradition lives on in atavistic forms. You can see it, for instance, in such simple little structures as the bell tower in the grounds of the new crematorium outside Karlskoga-Bofors, 11, and, if we permit the replacing of the bells with lamps, in those delightful little white-painted lighthouses which lie along the shores of the great Swedish lakes, 12.

Eric de Maré

COUNTER-ATTACK

MATTERS OF TASTE

This month Bury St. Edmunds is holding a big historical pageant connected with the oath sworn by the barons in 1214 at the high altar of the Abbey to compel King John to ratify Magna Carta. It will be held in the Abbey Gardens, and will be the natural occasion for the expression of corporate pride—justifiable pride, for Bury is one of the handsomest and most balanced country towns in England. With corporate pride comes the thought of Improvements, and ironically enough three changes are proposed in Abbey Grounds, all praiseworthy in intention, which I feel will take away most of its character—a character emphatically worth preserving.

Bury was monastery first and town second. It was laid out as a new town in the late eleventh century to a checkerboard plan (which, unlike Salisbury, it has managed to overcome very successfully). The abbey was demolished at the Dissolution, leaving two big Perpendicular parish churches, one of them now the cathedral, and the abbey grounds settled down to mature, in a very English way: people built houses among the ruins when they were alive and got buried there when they were dead. By the nineteenth century the grounds had mellowed, just as though they were cellars of vintage port, into a perfect amalgam of past and present: and, surprisingly, the nineteenth century left well alone. The result is a leafy, serene, gently melancholy place, 1 and 2, that, due to tidying up everywhere else, can hardly be matched in the whole country.

It is unique; it is also out of fashion, at least in Bury, which can only see it as overgrown and untidy. The northern end of the grounds has already been tidied up, and called Abbey Gardens: what is proposed at the south end is a cleaning up and lawnifying, removing most of the gravestones and straightening out the informality. Abbey Gardens, 3, formal and rosebushy, shows the way the improvers are likely to be thinking if not the actual treatment proposed. Now, I dislike the style of the Abbey Gardens as much as I admire the other end of the precinct, and there are over the years more and more people who do the same. To put it at its lowest, the fashion in Improvements is changing. There is, of course, no question of absolute right or wrong about this: it is just a straightforward difference in taste and tempera-

1, 2

3, 4

5, 6

1 and 2, the south end of the abbey grounds at Bury St. Edmunds. 3, what improvement has made out of the northern part. 4, the abbey ruins as excavated. 5, the ruins of the crossing tower, now being excavated, showing an abundance of flint rubble and a complete absence of architectural detail. 6, the house wedged in between the remains of the original west front.

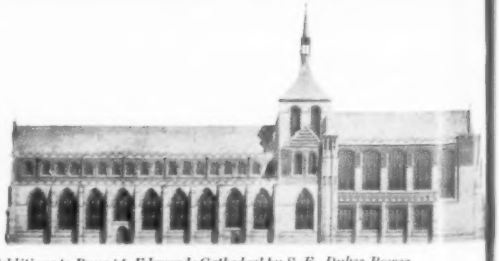
ment, and will always exist, just as it existed in the eighteenth century between the le Nôtres and the Kents. Why not, therefore, keep both alternatives? —let the Abbey Gardens be as floral and formal as they like, and keep the southern end of the grounds in their present informality.

Exactly the same point of view can be applied to the second of the proposed improvements, the excavation and laying out of the Abbey ruins in customary Ministry of Works style. The northern end has already been treated in this way, 4; the results make me shudder, but that again is a matter of taste. The crossing of the church itself is now being excavated, having been stripped of its ivy and frilly bushes, and presents an eerie lunar appearance, 5. But the west front has a house planted firmly between what is left of the main piers, 6, with people still living in it. This, surely is of far greater historical interest than one more lump of exposed flint rubble core—there is not a single bit of dressed or ornamental stone left on the whole site. All that can ever be recovered is a ground plan, so why bother? Again, why not attempt to cater for both sides: uncover the east end if there is any archæological profit to be got from it, and let the west end be—and not as a museum but as an inhabited house.

The third alteration is much more tangible, in the form of a Neo-Gothic crossing and quire for the cathedral, 7 and 8, and contingent openings-out for the sake of 'dignity' around the west end. The cathedral is a design of c. 1500 by John Wastell, which is an exact and rather depressing cut-rate edition of St. Mary's Church a hundred yards away. In every respect—piers, arcades, clerestory framing, windows, spatial tension—it is the style of St. Mary without the quality: fifteenth century imitation gothic, if you like. So, as well as all the other arguments against building in a fake style there is the fact that it would be compounding a felony, as it were, because the original building is itself neither original nor particularly good. This is doubly sad because all the other good buildings in Bury have not tried to imitate anything else: the Norman bell-tower, the Decorated abbey gateway, Adam's Town Hall and the Georgian building sitting so happily in the background of illustration 2, are all as dissimilar in style as could be.

This proposed mass of flushwork and Perpendicular tracery is really a kind of easy way out; the real task would be to find, in modern terms, a space that would improve on and augment the existing building just as the Ely octagon augmented the Ely nave. It can be done—the Germans are doing it on a smaller scale in dozens of churches and American architects like Yamasaki and Rudolph are producing gothic spaces anyway (gothic space is not really an appendage of a style but an expression of a perennial part of human behaviour). In England we are still so obsessed with the Gothic Revival that we are incapable of creating gothic spaces without imagining stylistic trappings around them: then, inevitably, because

7



8

Additions to Bury St. Edmunds Cathedral by S. E. Dykes Bower. 7, the architect's impression of the cathedral from the south east. 8, south elevation, with the existing sixteenth-century nave on the left and the proposed new east end on the right.

they are applied and not felt, the trappings kill the spatial idea stone dead.

So there it all is: not, I hope, a discordant note in the pæan of pageantry, but a bit of honest disagreement very much in the Magna Carta tradition. English compromise is a bad thing if it means dilution all round; but applied in its original radical sense, as a harmonization of mutually existing differences, it is a vital town planning method, possibly the only sound method there is. It could well be applied here to satisfying all of the people some of the time. **Ian Nairn**

SKILL

PITCHED ROOF COVERINGS

by Peter Whiteley

3, unit coverings—*concluded*

Continuing the first of Peter Whiteley's reviews on pitched roof coverings, we published last month comparative cost tables relating to slates, shingles and concrete tiles. This month we finish the first part of the series by publishing similar tables dealing with clay tiles, thereby completing a cost survey of the chief pitched roof unit coverings available in this country.

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
CLAY TILES (all tiles are calculated at 3 in. lap unless otherwise stated)								
JOHN BOARD & CO. LTD., Bristol Road, Bridgwater, Somerset								
					£ s. d.	£ s. d.	£ s. d.	
plain tiles (hand made)	10½ in. by 6½ in.	11 cwt.	40°	available in natural sandfaced and red sandfaced, dun sandfaced	£7 17s. 6d. for natural and red	13 3 0	41 2 0	plain tiles also available as machine made in plain red, dun, silver-grey and brown
				brown sandfaced, antique sandfaced and dun, silver-grey and brown	£9 15s. 0d. the rest	15 6 0	43 5 0	
'Granada' bold roll tiles (hand made)	16¾ in. by 14 in.	6½ cwt.	35°	colours available: natural sandfaced	4 16 0	8 8 0	36 7 0	
				red sandfaced, dun, silver-grey, brown, dun sandfaced, other colours as above	prices for other colours slightly higher			
				silver-grey sandfaced, brown sandfaced				
interlocking double Roman (breakjoint, hand made)	16¾ in. by 13¾ in.	6 cwt.	35°	plain red, natural sandfaced, red sandfaced	4 14 0	8 5 0	36 4 0	also available as a straight joint tile at slightly less cost
				other colours as above	prices for other colours slightly higher			
single Roman (hand made)	13½ in. by 10½ in.	5¾ cwt.	35°	plain red	6 17 0	9 18 0	37 17 0	also available as 15 in. by 10 in. tile
				also in dun, silver-grey and brown	price slightly higher			
Old English pantiles (hand made)	14 in. by 10 in.	6½ cwt.	35°	natural sandfaced and red sandfaced	6 4 0	9 6 0	37 5 0	also made by this company: Minorca bold roll, Pooles (large and small), triple angular, treble tiles and a full range of special tiles to go with all the above ranges
				also in dun, silver-grey and brown, dun sandfaced, brown sandfaced and antique sandfaced	price slightly higher			
extruded clay pantiles (machine made)	15 in. by 10 in.	6 cwt.	35°	plain red	3 18 0	7 2 0	34 18 0	
				also in dun, silver-grey and brown	price slightly higher			
G. TUCKER & SON LTD., Loughborough, Leicestershire								
plain tiles (hand made)	11 in. by 7 in.	11¾ cwt.	40°	all sandfaced: red, purple, brown thatch	7 0 0	10 4 0	38 3 0	full range of plain tile fittings available
				dun	7 5 0	10 9 0	38 8 0	

[continued on page 434

 continued from page 433]

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
JOHN BROWNE & CO. LTD., Old Taunton Road, Bridgwater, Somerset								
plain tiles (hand made) No. 3	10½ in. by 6½ in.	10 cwt.	40°	available in the following colours: red sandfaced, antique, dun, brown and Purple sandfaced	£ s. d. 9 18 0 red sandfaced slightly less	£ s. d. 13 18 0	£ s. d. 41 12 0	also available in red plain faced, dun, brown and purple as a machine made tile
rainbar double Roman tiles No. 5	16½ in. by 13 in.	6½ cwt.	30°	red (plain), dun, brown and Purple (plain) natural sandfaced, red sandfaced, antique, dun, brown and purple sandfaced	4 6 0 4 8 0	7 8 0 7 10 0	35 7 0 35 9 0	the head of this tile incorporates raised weather bars and protected nail holes
rectory tiles No. 6	12¾ in. by 11½ in.	7½ cwt.	30°	red (plain), natural sandfaced, red sandfaced, dun, brown and purple (plain), antique, dun, brown or purple sandfaced	4 10 0 for natural sandfaced and red sandfaced	8 3 0	36 2 0	laid to a break joint and with double weather checks at head and protected nail holes
west country pantile No. 7 (hand made)	13½ in. by 9½ in.	6½ cwt.	30°	red (plain), natural sandfaced, red sandfaced, dun, brown or purple (plain), antique sandfaced, dun sandfaced, brown sandfaced, purple, green or blue glazed sandfaced	6 0 0 for red (plain) and natural sandfaced price slightly higher	9 13 0	37 12 0	every tile in alternate courses once nailed. manufactured to B.S.S. 1424
pantiles (machine made) No. 7A	15½ in. by 10 in.	7½ cwt.	35°	red (plain) dun, brown and purple (plain)	3 18 3 4 3 9	7 3 0 7 11 0	34 19 0 35 5 0	
'County' fully interlocking pantile No. 14	16 in. by 10 in.	7 cwt. (at 2⅞ in. head lap)	22½°–25° according to exposure conditions	red (plain), dun, brown and purple (plain) natural sandfaced, red sandfaced, antique sandfaced, dun sandfaced, brown sandfaced, purple sandfaced	5 11 9 5 14 6	9 4 0 9 6 6	37 3 0 37 5 6	every tile in alternate courses once nailed
'Somerset' interlocking tile No. 13 (side lock only, head lap variable)	15½ in. by 8 in.	6 cwt.	35°	red (plain), red sandfaced, dun, brown and purple, plain and sandfaced	3 16 0	6 8 0	34 6 0	manufactured to B.S.S. 1424. also made by this company; 'Homestead' tiles, double roll l.h.v. tiles, 'Monastery,' double Roman, Marseilles pattern, Broomhall (Taylors patent) and Abbey (Spanish pattern); and full range of special tiles to go with all the above ranges
HINTON, PERRY & DAVENHILL LTD., Pensnett, Brierley Hill, Staffordshire								
'Dreadnought' plain tiles (hand made)	11 in. by 7 in.	12 cwt.	40°	red sandfaced smokey black sandfaced, grey sandfaced	7 5 0 price slightly higher	10 10 0	38 9 0	
plain tiles (machine made)	10½ in. by 6½ in.	11¾ cwt.	40°	smooth red red and brown sandfaced dun sandfaced	6 2 0 best quality 6 7 6 6 13 6	9 4 8 9 9 0 9 15 0	37 3 0 37 8 0 37 14 0	

[continued on page 435

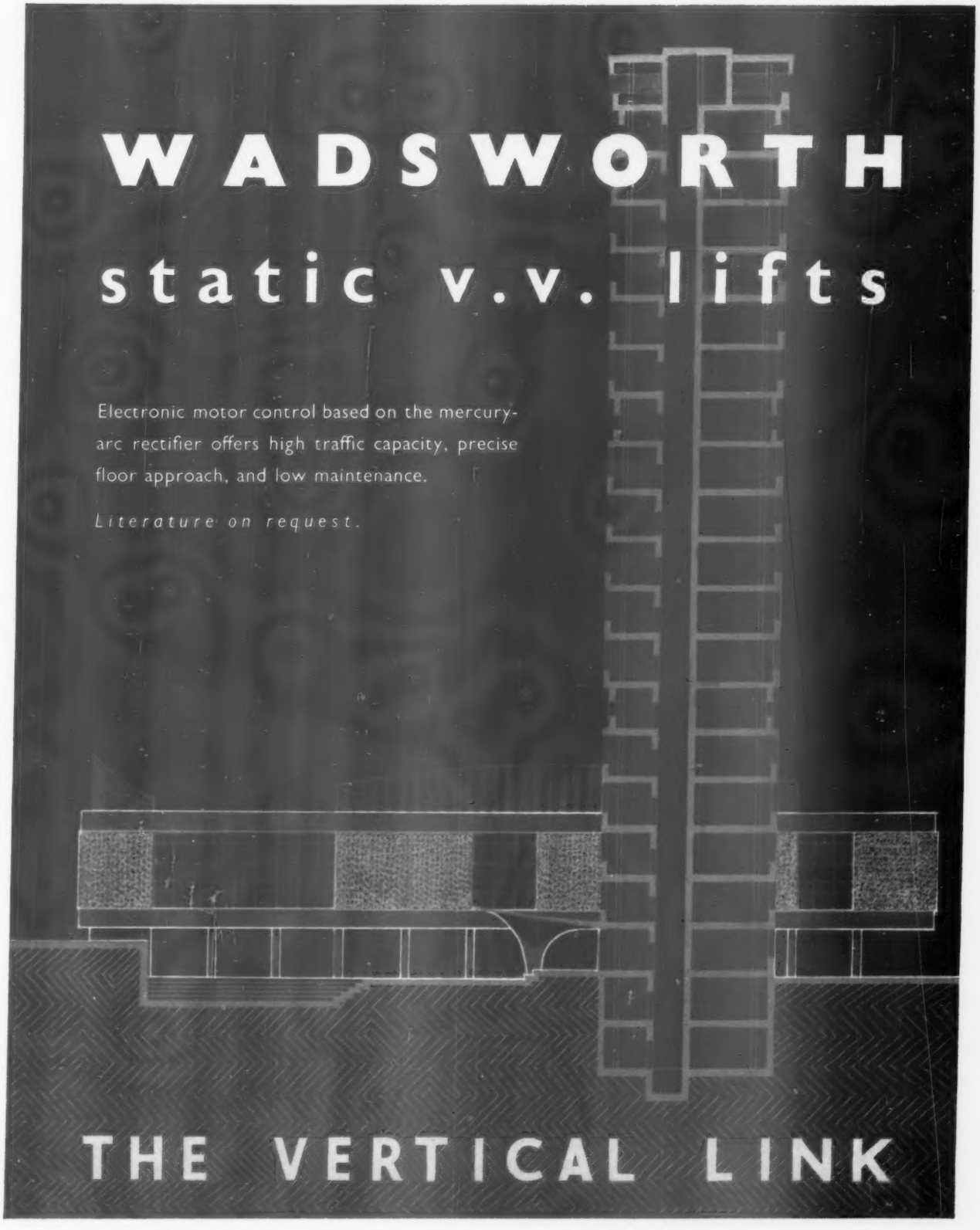
continued from page 434]

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
HENRY HAWKINS LTD., Longhouse Tileries, Cannock, Staffordshire								
plain tiles (machine made)	10½ in. by 6½ in.	13 cwt.	40°	smoothfaced and in deep medium red sandfaced in moss tone and and brown heather	£ s. d. 5 15 0 best quality also available in commercials and seconds	£ s. d. 8 18 0	£ s. d. 36 17 0	
COLTHURST SYMONS & CO. LTD., Bridgwater, Somerset								
plain tiles (hand made) No. 2	10½ in. by 6½ in.	10 cwt.	40°	available in colours and finish: red sandfaced	8 13 0	12 4 0	40 3 0	also made as a machine made tile in red and dun (smooth) at a lower price
				brindle, antique and multi-coloured sandfaced	9 15 0	14 19 0	42 18 0	
pantiles (hand made) No. 6	13½ in. by 9¾ in.	6¼ cwt.	35°	red (smooth), dun (smooth), red sandfaced	6 10 0 for red sandfaced	8 15 0	36 14 0	also obtainable in various glazes
				brindle, antique and multi sandfaced	higher price			
double Roman (hand made) No. 7	16½ in. by 14 in.	6 cwt.	35°	red (smooth), red sandfaced, dun (smooth), brindled, antique and multi sandfaced	4 10 0 for red sandfaced only	6 17 6	34 16 6	also obtainable in various glazes. may be fixed by the contractor's patent 'secure' clip system
interlocking double Roman (hand made) No. 11 break-joint tiles	16½ in. by 13½ in.	6 cwt.	30°	as above	5 9 9 for red sandfaced only	7 19 6	35 18 5	also available in a smaller size No. 11A 15½ in. by 11 in. also obtainable in various glazes
'Italian' over and under (hand made) No. 13B interlocking	15½ in. long tray and roll together covering 11¾ in.	10 cwt.	35°	available in red sandfaced, brindle sandfaced, antique sandfaced and multi sandfaced	8 10 6 for red sandfaced only	10 16 0	38 15 0	these tiles are normally fixed direct to boards and felt, with vertical battens to take roll tiles only
'Bambino' interlocking (hand made) sidelock only	13½ in. by 10½ in.	7½ cwt.	35°	red sandfaced, brindle sandfaced, antique sandfaced and multi sandfaced	7 0 9 for red sandfaced only	9 9 0	37 8 0	also available in various glazes. also made by this company: single Roman, secure system (s/s), triple tile (various), Pooles tiles, 'Spanish' (over and under), 'Lido.' 'Reynardo,' and full range of special tiles to suit all the above ranges
G. H. DOWNING & CO. LTD., Brampton Hill, Newcastle, Staffordshire								
'Acme' plain tiles	10½ in. by 6½ in.	11½ cwt.	40°	red (smooth-faced), best quality, commercials, seconds	4 12 6 for 'bests'	7 17 0	35 16 0	manufactured to B.S.S. 402/1945
'Acme'/sandstorm plain tiles	10½ in. by 6½ in.	11½ cwt.	40°	sandfaced in the following colours: red, purple, Tudor, heather, farmhouse, brown, crystal grey, Cotswold grey, in three qualities	5 12 9	8 16 0	36 15 0	A full range of specials is available to match this range
'Acme' interlocking tiles	11½ in. by 8½ in.	7¾ cwt.	35°	best red, red multi sandfaced	5 13 0	7 19 0	35 18 0	
				best red brindled (smooth), best red (smooth)	slightly lower price			

[continued on page 436

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
THE HUMBER BRICK & TILE CO., Barrow Haven, Lincolnshire								
					£ s. d.	£ s. d.	£ s. d.	
'Humbrian' pantile	13½ in. by 9½ in.	6¾ cwt.	35°–40°	natural red antique sand-faced, red and brown sandfaced	3 3 9 3 19 0	5 16 0 6 12 0	33 15 0 34 11 0	
French tile	13½ in. by 9½ in.	6¾ cwt.	35°–40°	natural red antique, red brown sandfaced	3 7 9 4 3 6	6 0 0 6 17 0	33 19 0 34 16 0	
corrugated tile	13½ in. by 9½ in.	6¾ cwt.	35°–40°	as above	3 7 9	6 0 0	33 19 0	
LANGLEY LONDON LTD., 163-7, Borough High Street, S.E.1 (agents (and importers) for a wide range of tiles)								
'Cloister' single Roman (hand made)	16¾ in. by 13¾ in.	7¾ cwt. (at 3¼ in. head lap)	35°	natural red prices London area red, brown and dun sandfaced	delivered to site 9 8 2 9 17 7	12 5 0 12 16 0	40 4 0 40 15 0	Every tile to be twice nailed
'Langhome' standard English pantile	13½ in. by 9½ in.	7½ cwt.	35°	natural red autumn red and dun sandfaced	5 14 1 6 16 11	8 4 0 9 18 0	36 3 0 37 17 0	fixing: every tile to be once nailed
fully interlocking improved pantiles	13⅞ in. by 10 in.	7½ cwt.	30°	natural red antique sand-faced multi-coloured purple, chestnut and black glazed (semi-matt)	6 10 0 6 15 6 7 13 0 9 17 6	9 11 0 9 18 6 10 17 0 13 6 0	37 10 0 37 17 6 38 16 0 41 5 0	every tile to be once nailed
'Priory' bold roll variegated tiles, 10	13⅞ in. by 10½ in.	7½ cwt.	35°	variegated smooth finish	8 5 0	11 7 0	39 6 0	as above this tile is a boldly profiled pantile
C.D.N. (Belgian) fully interlocking tiles, 11	11½ in. by 8½ in.	7 cwt.	30°	natural red brown, antique and dark red matt green black, deep brown, teapot brown glazed	6 10 8 7 1 10 9 0 6 13 0 0	9 12 0 10 3 6 12 5 0 16 11 0	37 11 0 38 2 6 40 4 0 44 10 0	these fully interlocking tiles have additional weather protection in the form of weather stops and a raised collar round the nail hole additional green and blue glazes available at a higher price
'Sterreberg' fully interlocking pantile	14 in. by 9½ in.	8 cwt.	30°	natural red brown, antique, dark red matt green black, deep brown, teapot brown glazed	7 11 0 8 0 8 9 11 0 13 17 5	10 9 0 11 2 0 12 16 0 17 4 0	38 8 0 39 1 0 40 15 0 45 3 0	every tile to be once nailed additional green and blue glazes available a full range of 'specials' is available for all the above tiles, including glass tiles for loft lighting
MAIDENHEAD BRICK & TILE CO. LTD., 'Inholmes,' Burgess Hill, Sussex								
plain tiles (hand made) also machine made	11 in. by 7 in. 10½ in. by 6½ in.	11 cwt.	40°	hand made natural	7 6 9	10 10 0	48 9 0	
THE METALLIC TILE CO. LTD., P.O. Box 4, Chesterton, Newcastle, Staffordshire								
'Metal' plain tiles (machine made)	10½ in. by 6½ in.	11 cwt.	40°	red (smooth) pressed red and purple sandfaced brown, russet and grey	5 8 0 (best) 5 12 0 (best) 5 16 6 (best) prices of commercials about 10% less	8 14 0 8 19 0 9 5 6	36 13 0 36 18 0 37 4 6	full range of fittings and specials to match plain tiles
SWALLOW TILES LTD., Bookhurst Brick and Tile Works, Cranleigh, Surrey								
plain tiles (hand made)	10½ in. by 6½ in.	11 cwt.	40°	dark and medium antique sandfaced	6 5 0	9 9 0	37 8 0	

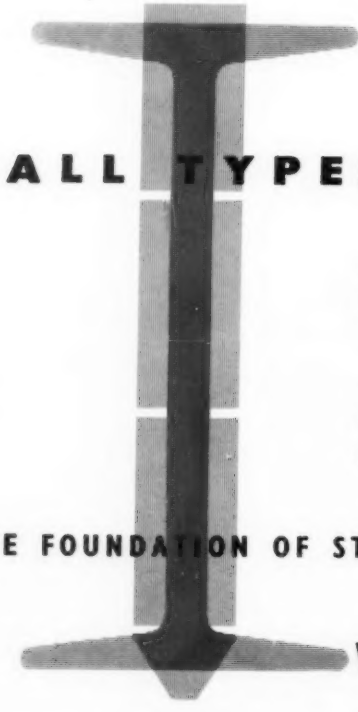
[continued on page 438


WADSWORTH
static v.v. lifts
Electronic motor control based on the mercury-arc rectifier offers high traffic capacity, precise floor approach, and low maintenance.
Literature on request.
THE VERTICAL LINK

WM. WADSWORTH & SONS LTD · VERTICAL TRANSPORT SPECIALISTS · HIGH STREET · BOLTON

(Wadsworth Passenger and Goods-Passenger Lifts installed at Bowaters, Northfleet, see editorial pages 402 to 406)

proprietary name and description	size	weight per square laid, in cwts.	recommended minimum pitch of roof (effective)	colour and finish	(a) cost material ex works per square	(b) cost laid per square (material only)	(c) cost per square on plan of total structure including ceiling and insulation	remarks
T. E. WALLEY LTD., Rosemary Hill Tileries, Silverdale, Newcastle, Staffordshire								
plain tiles (hand made)	10½ in. by 6½ in.	11½ cwt.	40°		£ s. d.	£ s. d.	£ s. d.	
				grey, antique for 'bests'	8 1 0	11 7 6	38 6 6	full range of plain tile fittings available
				dark red, red brindle, purple for 'bests'	7 13 0	10 19 0	38 18 0	
plain tiles (machine made)	10½ in. by 6½ in.	11½ cwt.	40°	sandfaced, all colours as above	5 16 0	9 0 6	36 19 6	
				plain smooth-faced in light and dark red and brindled	5 7 0	8 9 0	36 8 0	
WHEATLOY & CO. LTD., Springfield Tileries, Trent Vale, Stoke-on-Trent								
'Triton' pantiles (hand made)	13½ in. by 9½ in.	9 cwt.	35°	red, light brindled and light multi-coloured	6 18 6	10 5 6	38 4 6	each tile in every alternate course
				medium brindled	7 13 0	11 1 0	39 0 0	
				stained, green and variegated lichen	9 4 9	12 16 6	40 15 6	
'Romulus' tiles, Roman tiles (hand made)	13¾ in. by 11¼ in. including roll widening from 3½ in. at head to 4½ in. at tail	10¾ cwt.	35°	red, light brindled and light multi-coloured	8 3 6	11 12 6	39 11 6	also manufactured by this firm: Milan tiles, Seville (Spanish) tiles
				medium brindled	9 1 6	12 13 0	40 12 0	
				stained lichen	10 17 6	14 8 0	42 7 0	
HENRY WILLIAMSON & CO. LTD., North Bridge, Hull, Yorkshire								
'Newport' pantile (machine made)	13½ in. by 9½ in.	7¼ cwt.	35°	natural red	3 3 6	5 17 6	33 16 6	also manufactured by this firm: natural red French tile



FOR ALL TYPES OF STRUCTURE

STEELWORKS · FACTORIES · GASWORKS
ELECTRICITY INSTALLATIONS · REFINERIES
TOWERS & PYLONS · BRIDGES · FLATS · HOUSES

The modern, mobile system combining a precast reinforced concrete shell with a cast-in-situ core.

THE FOUNDATION OF STABILITY

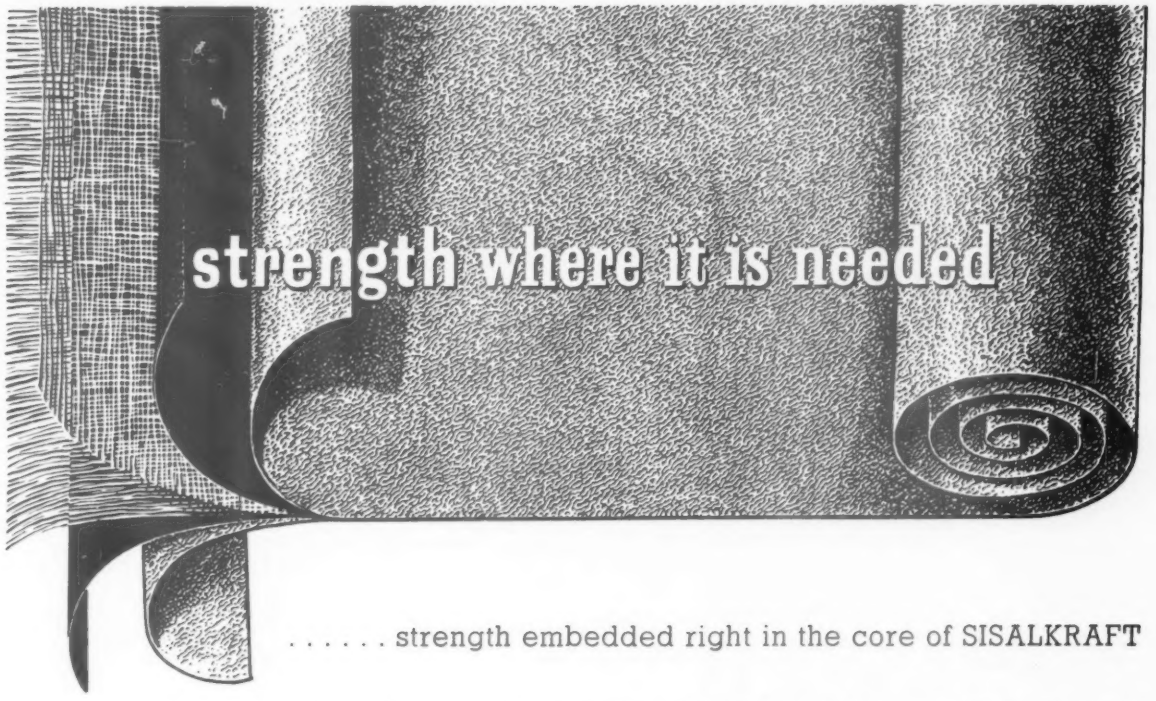
WEST'S *SHELL* PILING
SYSTEM

Please write for our latest publications

WEST'S PILING & CONSTRUCTION COMPANY LIMITED
Foundation Specialists · Design and Construction in Reinforced Concrete
BATH ROAD · HARMONDSWORTH · MIDDLESEX Telephone: SKYPORT 5222
Branches in London · Bristol · Birmingham · Manchester · Glasgow
Australasia: West's Shell Piling (Asia) Pty Ltd, Melbourne, Sydney, Adelaide & N. Zealand. Southern Africa: The Roberts Construction Co. Ltd, Johannesburg. France: Compagnie Générale de Construction de Fours, Paris. Ireland: Farrans Ltd, Dunmurry, Belfast

A6

(xc)



. . . . . strength embedded right in the core of SISALKRAFT by the unique reinforcement of tough, nonhygroscopic, unspun sisal fibres that are laid in both directions and sealed in two layers of high grade bitumen and covered by outer sheets of stout kraft paper. This 6 ply construction gives the tough, supple strength of SISALKRAFT, making it easy to handle yet exceptionally tear resistant and proof against moisture and damp.

SISALKRAFT TRADE MARK

the supreme building paper

A PRODUCT OF BRITISH SISALKRAFT LIMITED

Please write for information and samples to the SOLE DISTRIBUTORS:

ESTABLISHED OVER A CENTURY J.H.SANKEY & SON LTD

ESSEX WORKS · RIPPLE ROAD · BARKING · ESSEX | *PHONE.* LODOMinion 6666 *GRAMS:* BRICKWORK · BARKING

THE INDUSTRY

Asphalte Pocket book

The NAMMC have issued a booklet (which incidentally is made to the A6 size now incorporated into B.S. 1311—15 cm. by 10.5 cm.) for clerks of works. It explains in detail how asphalte should be applied and protected for basement, roof and floor work, deals with problems of storage, remelting, underlays, trapped moisture, indeed with all the problems of this technique. The idea is that clerks of works who study this book will be better equipped thereby to supervise and check mistakes or bad workmanship. One slightly alarming suggestion for the release of trapped moisture in roofs is to build 12 in. high by 27 in. long brick ventilators —one to every 60 yards super of roof, to be either left there or taken away when the moisture has gone. The architect cannot help wondering if there is not a less cumbrous method.

The booklet ends with tables of covering capacities and lists of British Standard specifications for sphalte work. Clarity of presentation would have been improved by less text and more drawings.

Natural Asphalte Minemowners and Manufacturers Council, 94 Petty France, S.W.1.

Pre-cast floors

One useful feature of a new pre-cast floor catalogue is a very extensive table of weights of various materials. The rest of it is devoted to details of the firm's methods for floor bearings, eaves treatments, etc., illustrated by rough sketches.

Girlings Ferro Concrete Co. Ltd.

Demountable partitions

The three-quarter height partition seemed at one time the sort of thing that office managers would ask jobbing carpenters to run up for them, but with increasing knowledge of acoustic control, it may come back at a higher level. Luxfer Ltd. produce what they call Techniplan units in four different heights from 3 ft. 6 in. to 7 ft. and as many as seven different widths. Units fit into posts, finish clear of the floor like lavatory partitions, can be had with glass, metal or acoustic board tops, can accommodate electric wiring and are not apparently fixed to the floor, except where doors occur. The catalogue contains one puzzle: doors are advertised as being packed with 'sound proof material' which would seem wasteful where air paths are not stopped. Unfortunately, no prices are given.

Luxfer Ltd., Warlow Road, Harlesden, N.W.10.

Fibrous Plaster

This material, formerly the preserve of the neo classicist, has been coming into its own again. At the same time a growing scarcity of plasterers for work on the site has been nearly matched by an increasing number of shop plasterers, many of them from the film industry so I am told.

One such specialist firm, Jonathan James Ltd., now advertises a range of panels under the name 'Plasrib': 2 ft. square, 1¼ in. thick reinforced with aluminium rods and nylon fibre, in various patterns of ribs and low relief motifs. Some of these are sound absorbing—the catalogue is a little ambiguous about this—and obtainable with thermal insulating backing. The panels for ceilings are fixed to a suspended timber or metal framework on hangers and are removable for access to concealed services. The hanging device is ingenious yet simple to install and has been developed in conjunction with Campbell Denis Ltd.

Jonathan James Ltd., 55-57 Lacey Road, Putney, S.W.15.

Roof Decking

Another proprietary roofing system on the market. It is called Pyrodek and consists of bulb angles, about 2¼ in. deep at 32 in. c.c. tack welded to the structural purlins or beams. Between these are laid 'formboards' of some unspecified non-impermeable material and over these again, square mesh galvanized reinforcement. Then the concrete pump is set going to deliver gypsum concrete through a pipe to fill up to at least a 2 in. thickness. Within 24 hours this is ready for the three-layer felt and granite topping. Roofs may be flat or pitched, and the company has worked out a number of eaves and edge treatments which their catalogue shows. One slight drawback is that the soffite must be left unpainted for a year to allow the moisture to dry out of the gypsum, another that the U value is 0.38 although fibreglass 'formboards' bring it down to 0.16. One wonders whether it would be worth while to try the possibilities of making this form of construction into decking units in the workshop to avoid site welding and the drying out problem.

D. Anderson & Son Ltd., Old Ford, Trafford, Manchester.

Slate

Three RIBA award winning leaflets giving technical information on cills, copings, and claddings have been issued by a slate firm. They are to A4 size, give their information economically and dispense with 'advertising'—which is very refreshing. It is a pity that cost information was not included.

Limestone and Green Slate Slab Co. (Westmorland) Ltd.

CONTRACTORS etc

Lodging Houses for Magdalene College, Cambridge. *Architect:* David Roberts. *General contractor:* Kidman & Sons. *Sub-contractors: Demolition:* A.J.Nunn & Son Ltd. *Excavation:* The Franki Compressed Pile Co. *Slate window surrounds:* The Bow Slate & Enamel Co. *Copper special roofings:* T. R. Freeman. *Roof lights:* Lenscrete Ltd. *Linoleum:* Eaden Lilley & Co. *Sanitary fittings:* Pratt (Watford) Ltd. *Casements:* The Crittall Manufacturing Co. *Tiling and plastering:* G. Cooke & Sons Ltd. *Marble:* Fenning & Co. *Stairtreads:* Hornton Quarries Ltd.

Lodging Houses for Clare College, Cambridge. *Architect:* David Roberts. *General contractors:* Kerridge Ltd. *Sub-contractors: Slate cladding and cills:* The Bow Slate & Enamel Co. *Woodblock*

[continued on page 442

Permaflat achieves the highest standard of Flat Finish more easily
permaflat
Flat oil paint for interior decoration
JOHN LINE & SONS
permaflat
JOHN LINE & SONS LTD
213-216 TOTTENHAM COURT ROAD, LONDON, W.1
New shade card or tint book and descriptive leaflet sent on request
JOHN LINE & SONS LTD
Wallpapers · Paints · Decorators' Materials
213-216 TOTTENHAM COURT ROAD · LONDON · W.1
ALSO AT BOURNEMOUTH · BRISTOL · CROYDON · DONCASTER · DUNDEE · EDINBURGH · MANCHESTER
MIDDLESBROUGH · NEWCASTLE · NOTTINGHAM · PLYMOUTH · READING · SUNDERLAND · TAUNTON

NEW INSULATION MATERIAL!

FEATHER-LIGHT FOAMED POLYSTYRENE for better thermal insulation at less cost!

K VALUE ONLY 0.22

Foamed Polystyrene is a light, rigid, low-cost material which combines outstanding thermal insulation with simple, economical installation.

Feather-light, rigid, simple to fix. Amazing lightness plus rigidity make Foamed Polystyrene easy to handle and simple to fix—mechanically or with adhesives. It can be cut, sawn or drilled with ordinary woodworking tools. Installation costs are therefore extremely low.

Partition walls and floors. Foamed Polystyrene can readily be faced with wood, hardboard etc., to make doors and partition units with excellent thermal insulation properties. Used in floors, Foamed Polystyrene adds 'step-sound' insulation to highly efficient thermal insulation.

Pre-cast wall units. Fabricated as a sandwich construction with concrete, Foamed Polystyrene produces thermally insulated curtain wall units. This application and the use of Foamed Polystyrene for general thermal insulation purposes are already well established on the Continent. Foamed Polystyrene does not absorb water, is dimensionally stable, unaffected by vibration and rot proof.

Flame retardant grades of foamed polystyrene are available. These have been tested by the Joint Fire Research Organisation and found to be equivalent to materials having Class 1 surfaces as defined in B.S. 476: Part 1.

MONSANTO SUPPLIES MONTOPORE, THE RAW MATERIAL FOR FOAMED POLYSTYRENE

Montopore is a Registered Trade Mark

Foamed Polystyrene is available in many thicknesses and sizes from:

The Baxenden Chemical Co. Ltd.
Paragon Works
Baxenden
Nr. Accrington
Lancs.

The Cork Growers Trading Co. (1931) Ltd.
Vulcan Street
Bootle, 20
Liverpool, Lancs.

Commerce Factors (G.B.) Ltd.
Tregelly Antony
Torpoint, Cornwall.

Veedip Limited
St. Helen's Works
Slough, Bucks.

Wola Engineering Co. Ltd.
Tangmere Road
Tangmere, Sussex.

Monsanto Regd.

MONSANTO CHEMICALS LIMITED, Plastics Division

10-18 Victoria Street, London, S.W.1 and at Royal Exchange, Manchester 2

In association with: Monsanto Chemical Company, St. Louis, U.S.A. Monsanto Canada Limited, Montreal. Monsanto Chemicals (Australia) Limited, Melbourne. Monsanto Chemicals of India Private Limited, Bombay. Representatives in the world's principal cities.

flooring: Horsley Smith & Co. *Cork flooring:* Watts & Son Ltd. *Electric light fixtures:* George Forrest & Son (1950) Ltd.; Falk Stadelman & Co. *Sanitary fittings:* Pratt (Watford) Ltd. *Door furniture:* Alfred G. Roberts Ltd. *Casements:* Williams & Williams Ltd. *Rolling shutters:* G. Brady & Co. *Plaster:* G. Cooke & Sons Ltd. *Metalwork:* George Lister & Sons Ltd. *Joinery:* John Sadd & Sons Ltd.; Rippers Ltd. *Stonework:* Coulson & Son Ltd. *Marble:* Fenning & Co. *Lifts:* Evans Lifts Ltd. *Signs:* Ward & Co. *Copper roofing and plumbing:* Kershaw Heating Co.

Papermill at Northfleet. *Architects:* Farmer & Dark. *General contractors:* Higgs & Hill Ltd. *Sub-contractors: Piling:* The Cementation Co. *Damp-courses:* Engert & Rolfe Ltd. *Bricks:* Sevenoaks Brick Works Ltd.; Sussex & Dorking United Brick Co.; Uxbridge Flint Brick Co.; The Stourbridge Glazed Brick & Fireclay Co. *Structural steel (machine house):* Wright Anderson & Co.; *(mill offices):* Hills (West Bromwich) Ltd.; *Asphalte roofs (machine house):* The Limmer & Trinidad Lake Asphalte Co.; *Bitumetal roofs:* Wm. Briggs & Sons Ltd. *Patent glazing (machine house):* Williams & Williams Ltd.; *Glazed screens:* Alan H. Williams (Chester) Ltd.; Frederick Braby & Co. *Woodblock floors (mill offices):* Hollis Bros. Ltd. *Patent flooring:* Flooring Services (Croydon) Ltd.; The Adamite Co. *Precast concrete stair treads:* Precon Ltd. *Road surfacing:* Val de Travers Asphalte Ltd. *Sewage pumping installation:* Wallwin (Pumps) Ltd. *Monorails:* British Monorail Ltd. *Central heating and ventilation (mill offices):* Engineering Service Installations Ltd. *Sanitary fittings (mill offices):* Stitsons Sanitary Fittings Ltd. *Door furniture:* H. & C. Davis & Co.; Nettlefold & Moser Ltd.; Alfred G. Roberts Ltd. *Windows:* P. G. Allday & Co.; A. Johnson Bros. Ltd. *Folding gates and rolling shutters:* Potter Rax Ltd. *Fireproof doors:* John Booth & Sons (Bolton) Ltd. *Doors:* Walter Lawrence & Son Ltd. *Iron staircases and roof balustrades:* F. A. Norris & Co. *Handrailing:* Lionweld Ltd. *Crane access ladders:* Haywards Ltd. *Sunblinds:* London Blinds Ltd.; Danaura Ltd. *W.C. partitions:* Venesta Ltd. *Floor and wall tiling (mill offices):* Carter & Co. *Glass-fibre water storage tank:* Microcell Ltd. *Incinerators:* Hygienette Manufacturing Co. *Shrubs and trees:* Gilliam & Co. *Indoor plants:* Elm Garden Nurseries. *Lockers:* The Speedwell Gear Case Co.; W. B. Bawn & Co. *Lifts:* J. & E. Hall Ltd.; Wm. Wadsworth & Sons Ltd.; Maryatt & Scott Ltd. *Clocks:* I.B.M. (U.K.) Ltd. *Illuminated signs:* The Franco British Electrical Co. *Column mosaic:* Carter & Co. *Curtain walling (mill offices):* The Morris Singer Co. *Cork flooring:* E. J. Elgood Ltd. *Reinforcement:* The Rom River Co. *Precast concrete floor slabs:* Mears Bros. (Contractors) Ltd. *Slate cills:* Bow Slate & Enamel Co. *Flush doors:* Saro Laminated Wood Products. *Duct covers:* Broads & Co. *Heating grilles:* Matthews Refractories Ltd. *Fibrous plaster (to ceilings and column casings):* Plaster Decoration Co. *Mosaic panels, terrazzo floors:* Mosaic & Terrazzo Precast Co. *Carpet and furniture (managerial suite):* Hille of London Ltd. *Veneered plywood panelling:* Wm. Mallinson & Sons Ltd. *Fencing:* Bayliss Jones & Bayliss Ltd. *Reinforced concrete chimney:* Bierrum & Partners Ltd.

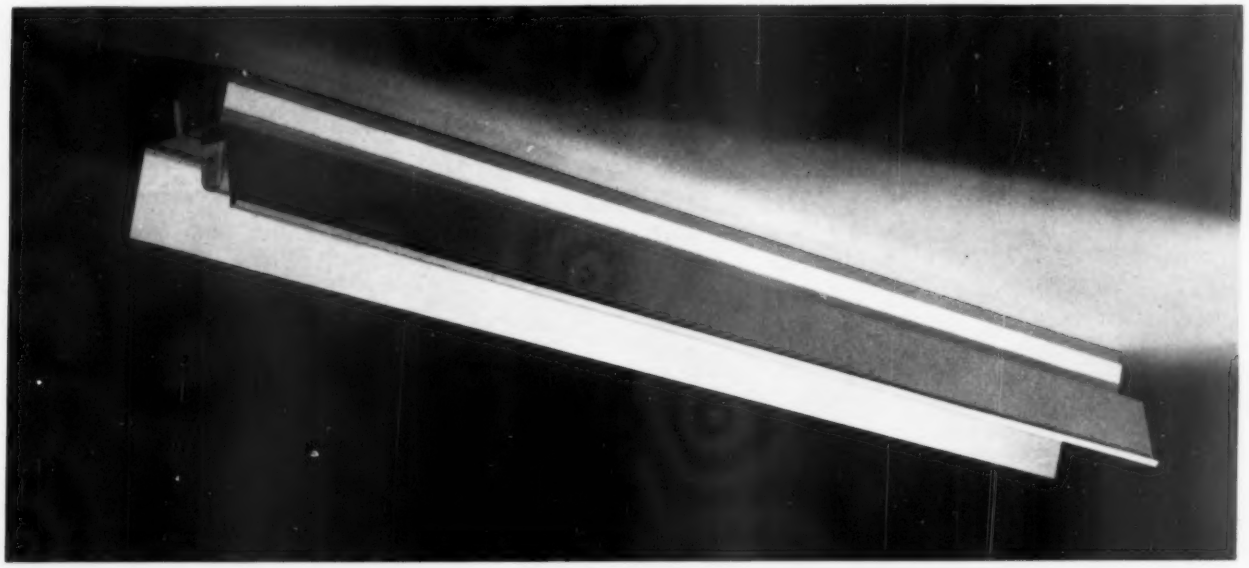
Bookshop in Baker Street. *Architect:* David Rock. *Shopfitters:* Frank W. Clifford Ltd. *Sub-contractors: Floor heating:* Electra (Birmingham 1935) Ltd. *Ventilation:* Heat Insulation & Ventilation Co. *Escape hatch:* Luxfer Ltd. *Terrazzo:* Zanelli (London) Ltd. *Marble:* Nine Elms Stone Masonry Works. *Sanitary fitting:* A. D. Foulkes Ltd. *Floor tiles:* Armstrong Cork Co. *Glass:* James Clark & Eaton Ltd. *Royal crest:* London Sand Blast Decorative Glass Works Ltd. *Light fittings:* Oy Stockmann, AB Helsinki; Atlas; Forest Modern; *Lounge chairs and desks:* Conran Furniture Ltd. *Curtaining:* Tibor Fabrics.

Hangar, Offices and Workshops at Gatwick Airport. *Architects:* Clive Pascall & Peter Watson. *General contractor:* Sir Alfred McAlpine & Sons Ltd. *Sub-contractors: Concrete blocks:* Vitreous Concrete Co. *Reinforced concrete:* The London Ferro-Concrete Co. *Bricks:* Sydney A. Hunter Ltd. *Steel lattice beams:* Sommerfelds Ltd. *Structural steel:* R. Smith (Horley) Ltd. *Mosaic tiles:* Dennis M. Williams Ltd. *Partitions:* Thermalite Ltd. *Double glass and infill panels:* Plyglass Ltd. *Patent glazing:* Mellowes & Co. *Terrazzo floors:* Jaconello Ltd. *Cork and thermoplastic floor tiles:* Armstrong Cork Co. *Waterproofing materials:* Johnson Floor Co. *Central heating:* Saunders & Taylor Ltd. *Boilers:* G.W.B. Furnaces Ltd. *Electric light fixtures:* Crompton Parkinson Ltd.; Strong & Co.; Atlas Lighting Ltd. *Ventilation and kitchen equipment:* Benham & Sons Ltd. *Sanitary fittings:* John Bolding & Sons Ltd. *Door furniture:* Alfred G. Roberts Ltd. *Internal telephones:* Dictograph Telephones Ltd. *Rolling shutters:* G. Brady & Co. *Hangar doors:* Esavian Ltd. *Plaster:* Mann Bros. Ltd. *Joinery:* Pochins (Manchester) Ltd. *Tiling:* Allan & Cairns Ltd. *Hydraulic floor lifts:* Weaver Manufacturing & Engineering Co. *Gantries:* British Electrical Repairs Ltd. *Signs:* Neoflo Signs Ltd. *Lavatory partitions:* Flexo Plywood Industries Ltd. *Asbestos spray ceilings:* Turners Asbestos Cement Co. *Road surfacing:* Tarpaving & Tarmacadam Ltd. *Roof decking:* Stramit Boards Ltd. *Paint:* Hadfields (Merton) Ltd. *Plastic-faced windows boards:* Berite Ltd.

Store at Crawley. *Architect:* R. G Thomson. *Consultant Designer:* Gaby Schreiber. *General contractor:* Welwyn Builders Ltd. *Sub-contractors: Waterproofing compounds:* R.I.W. Protective Products Ltd. *Concrete blocks:* Broad & Co. *Bricks:* High Brooms Brick & Tile Co. *Precast concrete grille:* J. A King & Co. *Structural steel:* Dawnay Ltd. *Fireproof construction:* Klein Co. *Slate facings:* Setchell & Son Ltd. *Roofing felt:* Permanite Ltd. *Glass:* F. Bowman Glassworks Ltd. *Curtain walling:* Fredk. Braby Ltd. *P.V.C. tiles and sheet:* Phoenix Rubber Co. *Ventilation and central heating:* White, Bays & White Ltd. *Kitchen equipment:* Benham & Sons Ltd. *Electric light fixtures:* George Forrest & Son (1950) Ltd. *Plumbing:* Home Counties Plumbing Ltd. *Sanitary fittings:* Adamsez Ltd.; Allied Ironfounders Ltd. *Door furniture:* James Gibbons Ltd. *Windows for internal court:* Williams & Williams Ltd. *Metal roller shutters:* Haskins Roller Shutters. *Sunblinds:* J. Avery & Co. *Metalwork and joinery:* R. Smith (Horley) Ltd. *Marble:* J. Whitehead & Sons Ltd. *Tiling:* Langley London Ltd. *Wallpapers:* Wallpaper Manufacturers Ltd. *Signs and shop fittings:* Courtney, Pope Ltd. *Entrance doors:* Davis Ridley & Co. *Lifts:* Waygood Otis Ltd. *Cranes:* Palmers Travelling Cradles & Scaffold Co.

Advertisement

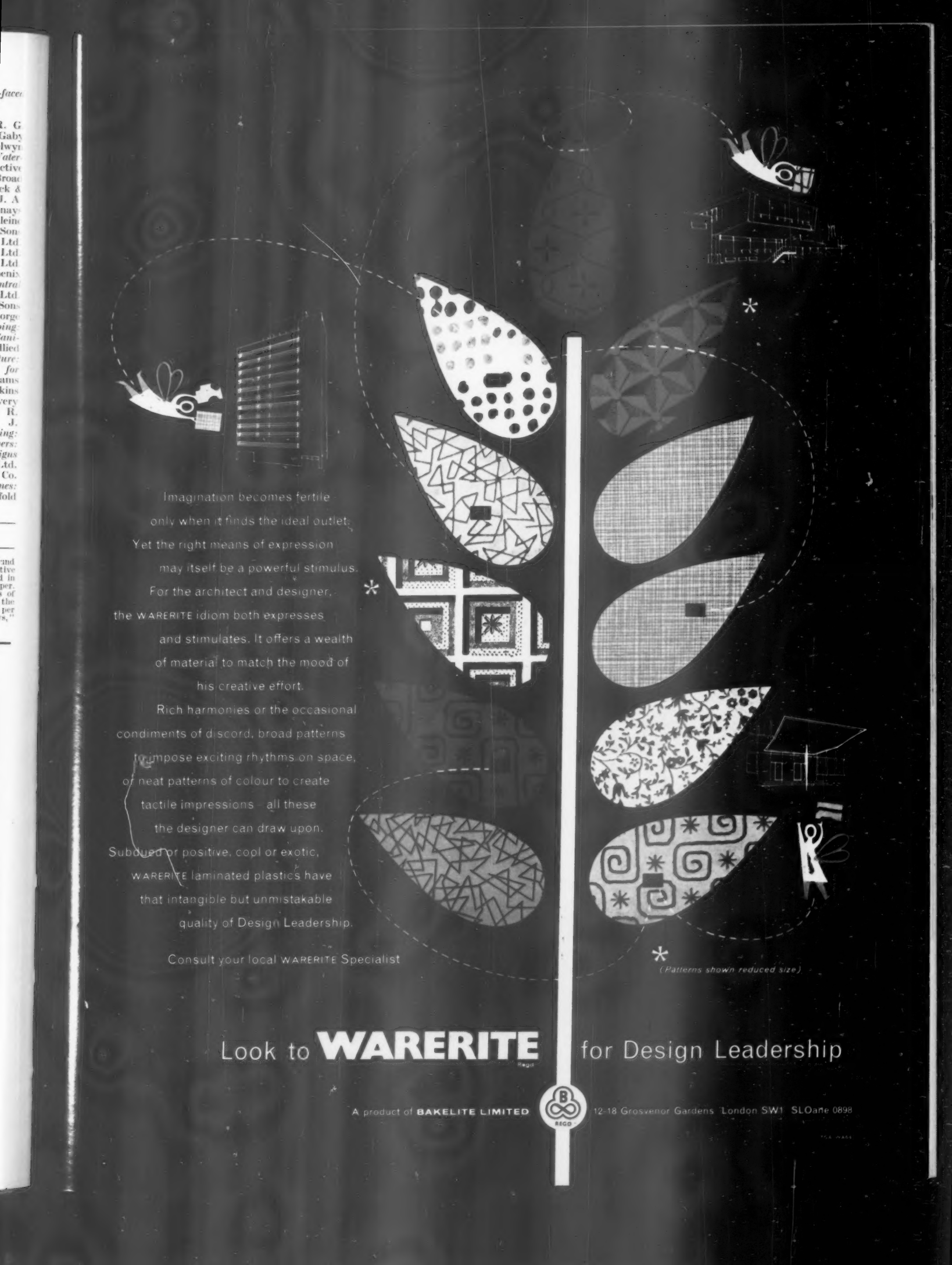
"*This is Progress*"—a 200 page cloth bound book giving full details of 250 co-operative shop and store developments completed in 1958. More than 160 illustrations on art paper. Also details of the development plans of nearly 100 co-operative societies during the next three years. Carriage paid 16s. 6d. per copy from The Editor, "Co-operative News," 418 Chester Road, Manchester, 16.



ALLOM HEFFER

AND COMPANY LIMITED 17 MONTPELIER STREET, KNIGHTSBRIDGE, LONDON, S.W.7 : KNIGHTSBRIDGE 6897-8

One of a series of Fluorescent Fittings priced from £6 1s. 4d., which have been styled by Noël Villeneuve for commercial and industrial uses. *Brochure series 303*


Imagination becomes fertile
only when it finds the ideal outlet.
Yet the right means of expression
may itself be a powerful stimulus.
For the architect and designer,
the WARERITE idiom both expresses
and stimulates. It offers a wealth
of material to match the mood of
his creative effort.
Rich harmonies or the occasional
condiments of discord, broad patterns
to impose exciting rhythms on space,
or neat patterns of colour to create
tactile impressions – all these
the designer can draw upon.
Subdued or positive, cool or exotic,
WARERITE laminated plastics have
that intangible but unmistakable
quality of Design Leadership.
Consult your local WARERITE Specialist
(Patterns shown reduced size)
Look to WARERITE Regd for Design Leadership
A product of BAKELITE LIMITED
REGD
12-18 Grosvenor Gardens London SW1 SLOane 0898

PRESENTING THE

Kingston

VITREOUS CHINA LAVATORY

Clean, flowing lines — exciting, yet practical — graceful, yet robust — these are the characteristics of the latest addition to the wide range of "Standard" Sanitary Appliances... Add to these qualities the permanent hygiene that only Vitreous China can ensure and the result is an appliance of unexcelled beauty and value.

Apart from the pedestal mounting, as illustrated, the Kingston Lavatory is available with concealed wall-hangers or chromium-plated legs.

"Standard" SANITARY APPLIANCES

Manufactured by **IDEAL BOILERS & RADIATORS LIMITED · IDEAL WORKS · HULL**

422

"Murite" REGD. TRADE MARK GYPSUM PLASTER

Pyrodek Trade Mark FIRE RESISTING GYPSUM CONCRETE

"Murilite" REGD. TRADE MARK PRE-MIXED PERLITE PLASTER

"MURITE"

"Murite" Plasters are classified as Retarded Hemi-hydrate Plasters and comply with the requirements of B.S.S.1191, Class "B". These Plasters are made in five types, a suitable grade being available for application to any type of ground normally found in building practice.

"Murite" Plasters when set revert to Gypsum, a mineral which contains 20% of chemically combined water that must be driven off before dangerous temperatures can be reached. This water barrier is one of the reasons why "Murite" Gypsum Plasters have such excellent fire resisting properties.

"PYRODEK"

A material specifically designed for incorporation in the Gypsum Concrete Roof Decking System developed by the roofing specialists, Messrs. D. Anderson & Son Ltd., Manchester, in conjunction with ourselves.

Fire hazards in relation to roof construction have assumed considerable emphasis in this country. Effective resistance to fire and the rapid spread of fire throughout a building is a most important factor in roof design.

The "Pyrodek" Gypsum Concrete Roof offers a natural resistance to fire as Gypsum is incombustible and, further, possesses the valuable property of emitting water vapour when subjected to intense heat, thus providing, in effect, its own sprinkler system.

The "Pyrodek" Gypsum Concrete Roof has been thoroughly tested and awarded a Class "C" (2 hours) fire rating by the Fire Research Station.

"MURILITE"

"Murilite" Pre-mixed Perlite Plaster is a combination of the well-known "Murite" Gypsum Plaster with Expanded Perlite, an aggregate of extreme lightness. This aggregate is incorporated in the factory, thus ensuring that proportions and mixing are always correct. The use of Perlite as the aggregate provides many advantages, such as extreme lightness, remarkable workability and improved thermal insulation and fire resisting properties.

Gypsum Plaster is one of the finest fire resisting materials known to the Building Industry, but when Perlite is incorporated as in "Murilite" Pre-mixed Perlite Plaster, its fire resistance is greatly increased. This outstanding quality of fire resistance is amply borne out by the high fire ratings awarded by the Fire Research Station, as a result of tests carried out on various types of structure.

Write to the address shown below for complete details of these fire rating tests made in accordance with British Standard Definitions No. 476:1953.

FULL DESCRIPTIVE CATALOGUE AVAILABLE ON REQUEST.

CAFFERATA & CO. LTD.

NEWARK NOTTS NEWARK 2060

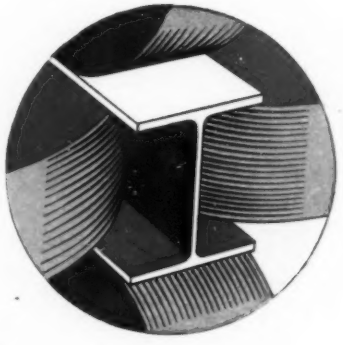
'UNIVERSATILITY'
OF OUR UNIVERSAL BEAM MILL

With this mill we are now rolling 'H' and 'I' sections from 6 inches deep by 6 inches wide up to 36 inches deep by 16½ inches.

Further, this versatile mill rolls all these sections in different thicknesses, so that constructional engineers will no longer need to build up their columns and girders, except for the heaviest work.

Whole 'families' of simple columns can be rolled, in suitably related sections, for multi-storey buildings: beams can be produced (some of them the largest in Europe) with extra flange thickness to carry extra heavy loads. In all these cases the laborious riveting-on of extra flange-plates will be abolished; a simple rolled section will do the job better, saving steel and labour.

Universal beams have opened a new field for steelwork designers, offering far-reaching economies and increasing the efficiency of the structure.



The variation in the flange and web thickness of the new sections is carried out by adjusting, not changing, the rolls. The small diagram shows that adjustment does not appreciably alter the surfaces shaded in red.

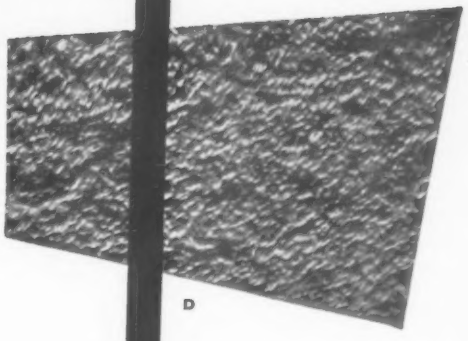
B.S. STANDARD BEAMS, CHANNELS AND ANGLES WILL STILL BE AVAILABLE

EARLY DELIVERY OF THE FULL RANGE OF SECTIONS

DORMAN LONG

E

A



D

C

A Director's office with "boomerang" desk/conference table (Catesbys' own design).

B Close-up of Catesby-designed moveable desk pedestal. Single locking system locks all 4 drawers at once.

C One of the chairs designed by Catesbys for general purpose use.

D Detail of the carpet texture chosen for the room.

E Panel at rear of desk controls curtains, room lighting and buzzer.

interiors by

Catesbys

CONTRACTS & EXPORT LTD

B

The interior as you originally conceived it down to the last detail—intelligently interpreted, impeccably executed by Catesbys Contracts and Export. And the Catesby service goes further: it extends to everything you need for an interior. Whether you want a chair specially designed and made, or a desk from stock, an alcove wallpapered or a complete scheme for a block of offices, Catesbys will do it. Telephone and ask a contracts executive to call and discuss your present project.

CATESBYS CONTRACTS AND EXPORT LTD

TOTTENHAM COURT ROAD W1 · TELEPHONE: MUSEUM 7777

A

MONSANTO HOUSE
VICTORIA STREET
Architects:
Sir John Burnet,
Tait & Partners

BOWATER HOUSE
KNIGHTSBRIDGE
Architects:
Guy Morgan & Partners

LYNTON HOUSE
TAVISTOCK SQUARE
Architect:
Raymond C. Arnold

J. ARTHUR RANK ORGANISATION
BELGRAVE ROAD · SW1
Architects:
T. P. Bennett & Son

ROYAL COLLEGE OF SURGEONS
LINCOLN'S INN FIELDS
Architects:
Young & Hall

1 ST. JAMES'S SQUARE
Architects:
Mewes & Davies

BISHOP HOUSE
HIGH HOLBORN
Architects:
Trehearne & Norman,
Preston & Partners

VOGUE HOUSE
HANOVER SQUARE
Architects:
Yates, Cook & Darbyshire

WINGATE HOUSE
SHAFTESBURY AVENUE
Architects:
Sir John Burnet,
Tait & Partners

55-56 ST. JAMES'S STREET
Architects:
Lewis Solomon, Son & Joseph

VICTORY
EX-SERVICEMEN'S CLUB
SEYMOUR STREET
Architect:
Alister Macdonald

PENBERTHYS LTD
OXFORD STREET
Architects:
G. Edmund Wilford & Son

THE BIBLE COLLEGE
MARYLEBONE ROAD
Architects:
Clifford Culpin & Partner

A. DUNHILL LTD
JERMYN STREET
Architects:
T. P. Bennett & Son

129 KINGSWAY
Architects:
Fitzroy Robinson & Partners

QUAGLINO'S
JERMYN STREET
Architects:
T. P. Bennett & Son

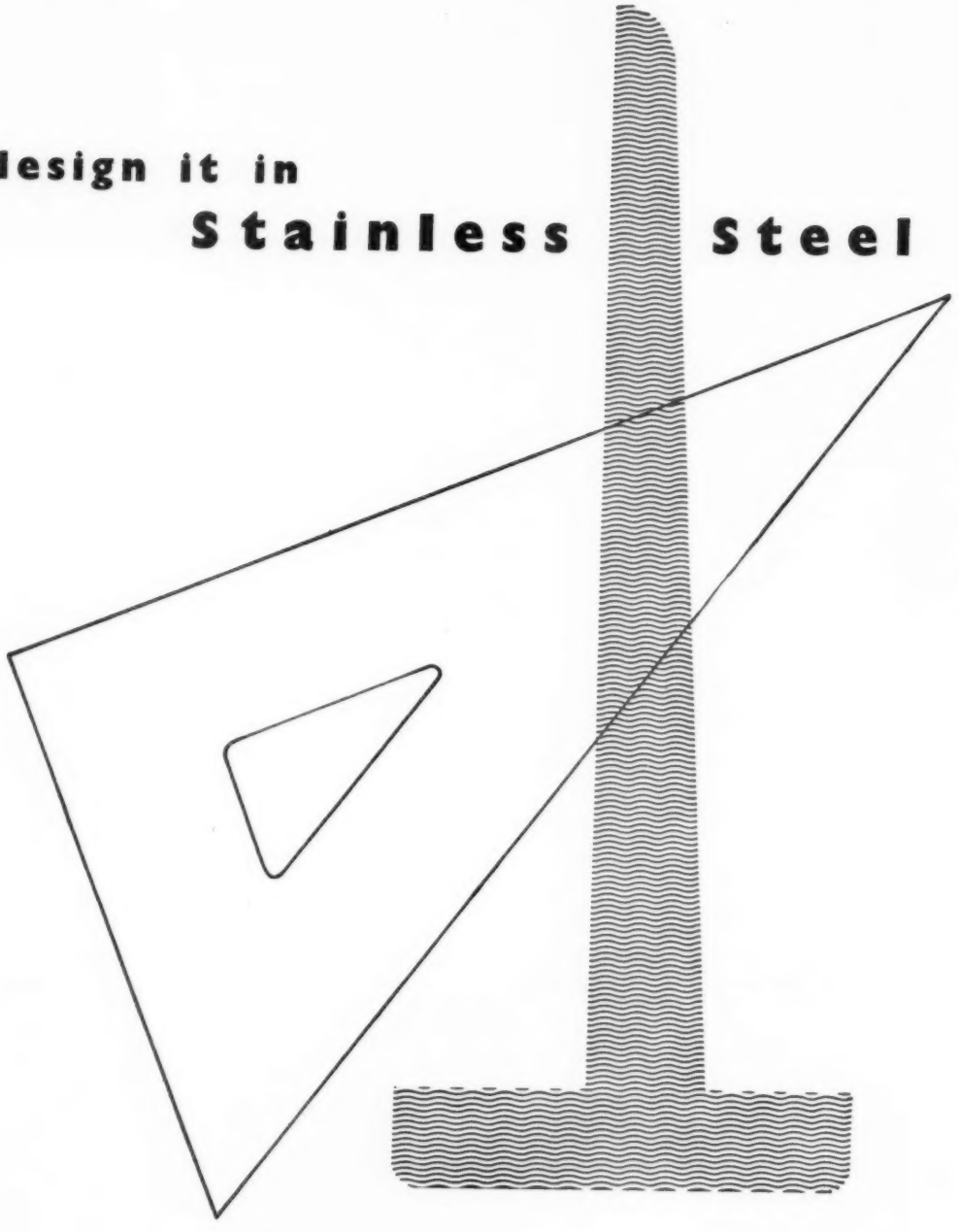
12-18 ALBERT EMBANKMENT
Architect:
Leslie C. Norton

London beyond the City builds with...

CRITTALL WINDOWS

THE CRITTALL MANUFACTURING CO. LTD · BRAINTREE · ESSEX · BRANCHES & DEPOTS THROUGHOUT THE COUNTRY

design it in
Stainless Steel



Right from the start

Technical literature is available on request.

FIRTH-VICKERS STAINLESS STEELS LTD · SHEFFIELD

is the only company in Europe to devote its activities exclusively to the production and development of stainless and heat-resisting steels.

ALL-GLASS CONSTRUCTION

The Clark-Eaton

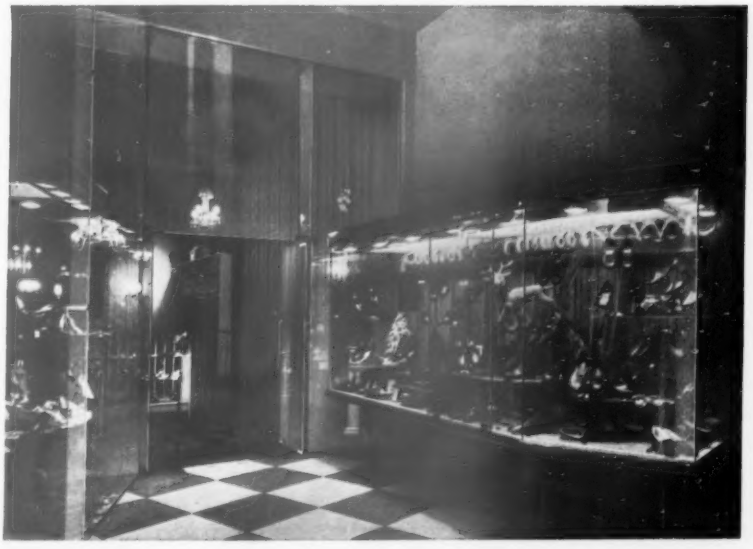
'BLACKFRIARS' SYSTEM

offers unlimited scope
to the designer

The photographs illustrate typical applications of the 'Blackfriars' System for Entrance Doors, Transoms, Sidelights, Enclosures, Entrance and Showcase Access Doors.

CLARK FOR GLASS

Please ask for literature and design sheets or come and see the numerous installations in our showrooms.



Fashion Shoe Shop for T. Elliott & Sons Ltd., Caltex House, Brompton Road. Designed and installed by W. T. Booth Ltd., Kingston-on-Thames.

JAMES CLARK & EATON LTD.

SCORESBY HOUSE, GLASSHILL STREET, BLACKFRIARS, LONDON, S.E.1

Telephone: WATerloo 8010 (20 lines)

CANTERBURY, BOURNEMOUTH, EASTBOURNE, READING, OXFORD (H. Hunter & Co.

CARLTON TOWERS LEEDS

"Now that really is quality building! It's a credit to Leeds."

"A credit to Myton too."

MYTON Multi-Storey Flats in Leeds

These new flats for the Leeds Corporation exemplify the new building technique developed by Myton Limited—a multi-storey structure that combines traditional building design and swift methods of prefabrication to meet building owners high standards of quality, economy and speed.

The contract for the erection of the two blocks was signed on June 16th, 1958, and the first of these was handed over in February 1959.

Myton Limited offered a complete service for the erection of these buildings.

You are seeing more and more of MYTON

MYTON LIMITED
Building and Civil Engineering Contractors

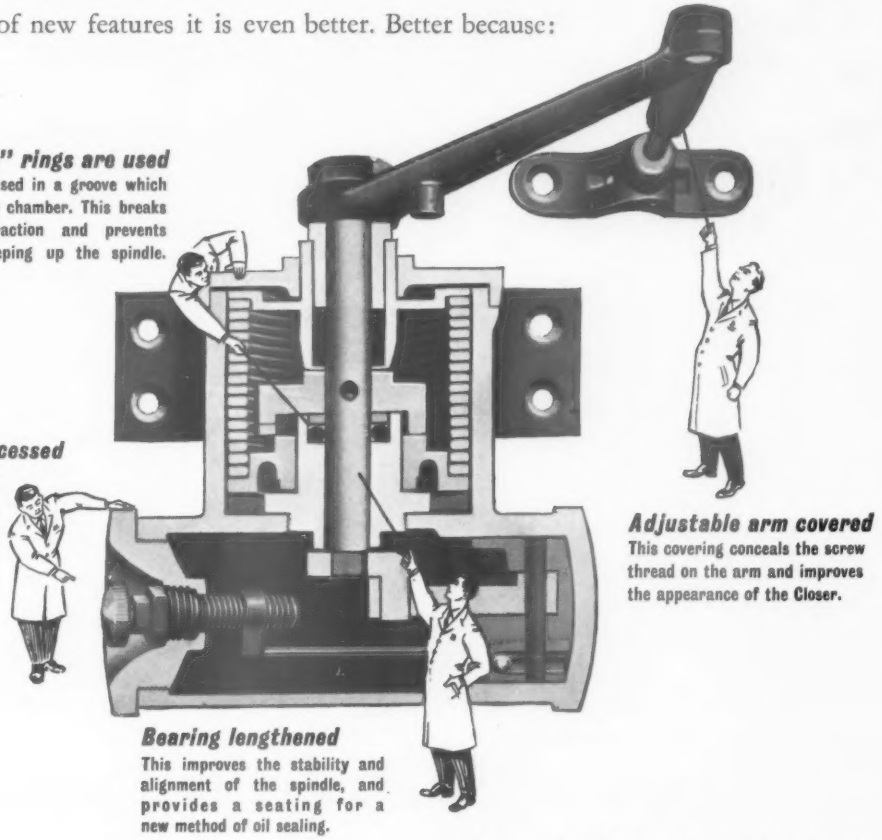
A member of the
TAYLOR WOODROW GROUP

HEAD OFFICE: WESTERN HOUSE · WESTERN AVENUE · EALING · W.5 · PERivale 6641 BRANCH OFFICE: NEWLAND · HULL · HULL 42277

Improved 'BRITON'

Door Closer MK III

The Inside Story The "Briton" Door Closer is well known. For years it has been the best in the World. Now, with the introduction of new features it is even better. Better because:



Rubber "O" rings are used
These are housed in a groove which creates an air chamber. This breaks capillary attraction and prevents oil from creeping up the spindle.

Check regulator recessed
This improves the appearance of the Closer, and removes all possibility of damage either before or after it is fitted to the door.

Adjustable arm covered
This covering conceals the screw thread on the arm and improves the appearance of the Closer.

Bearing lengthened
This improves the stability and alignment of the spindle, and provides a seating for a new method of oil sealing.

'BRITON'
DOOR CLOSER

The prevention of draughts and banging doors is in your hands. Specify "Briton" and you eliminate both. It fits right and left hand doors without alteration, and the spring can be regulated to six different strengths by finger tip control. Doors are closed both smoothly and silently. When a "Briton" Door Closer is fitted it can be relied on. It is guaranteed for *ten years*!

WILLIAM NEWMAN & SONS LTD. HOSPITAL STREET BIRMINGHAM 19

Wrap that school in Fibreglass
The thunder of tiny feet can be muffled by a floor that floats on Fibreglass. Classrooms can be kept cooler in summer and warmer in winter by walls and ceilings similarly insulated: Fibreglass deals with heat as firmly as it does with sound.

people are beginning to expect

warmth and comfort – peace and quiet

with FIBREGLASS TRADE MARK

FIBREGLASS LTD., ST. HELENS, LANCS · ST. HELENS 4224

Our new
automatic fabrication plant
is the largest
of its kind
in the world
That is only one of the reasons
we can quote lower prices and
give even quicker deliveries.
Of course, immediate availability
of steel stocks and general
know-how also help in the
giving of good service.
Banister, Walton
build in steel
BANISTER, WALTON & CO. LTD.
STRUCTURAL STEEL ENGINEERS & STOCKHOLDERS
MANCHESTER · LONDON · BIRMINGHAM

oops! time you turned to TELEFLEX

Next time Dear Sir, spare yourself this shattering experience—with 'Teleflex' in control, the most out-of-the-way window comes 'down to earth'. 'Teleflex' window control gear is neat to look at, simple to install and fits all types of windows without expensive alterations to window frames. The system can easily be adapted to handle several windows from one control box and once installed needs no maintenance, won't rust or jam—and costs very little for the trouble it saves!

Teleflex *brings things within reach*

PLEASE TELL ME—WITHOUT OBLIGATION—HOW 'TELEFLEX' CAN BRING ME 'DOWN TO EARTH' ON WINDOW CONTROL

Name_____

Company_____

Address_____

TELEFLEX PRODUCTS LTD · BASILDON · ESSEX · Tel: BASILDON 22861 (10 lines) · Grams: TELEFLEX PHONE BASILDON . Cable: TELEFLEX BASILDON

SEE OUR PERMANENT EXHIBIT AT THE BUILDING CENTRE 26 STORE STREET LONDON WC1

P 3229

CANADIAN TIMBER

...from Canada's vast forests a wood for almost every need!

"CUTTY SARK" FIGUREHEAD (UNPAINTED) WHITE PINE DONATED BY CANADA

CANADIAN WHITE PINE

Special Properties
Exceptionally low shrinkage
Uniform texture, easily worked
Stable under severe conditions
Good seasoning, painting and gluing properties

Typical Uses
Pattern making
Joinery
Wood carvings
Window and door frames
Household fittings and cabinet work

For further information on Canadian Woods, contact:
Commercial Counsellor (Timber), Canada House, London, S.W.1.

The **Demolition & Construction** Co. Ltd.

LONDON · CARDIFF · LIVERPOOL · NEWCASTLE-ON-TYNE

D&C

BUILDING, CIVIL ENGINEERING & PUBLIC WORKS CONTRACTORS

AUSTIN REED
(CARDIFF)
Architect:
Westwood Sons
& Partners

Tomorrow's needs must be planned for, today

Architects and Executives today, concerned with interior planning, need to be in touch with modern interior sales presentation. New developments in materials and merchandise demand it.

The George Parnall organisation base all work carried out for clients on a true appreciation of this need, interpreted according to the highest standards of contemporary design.

Our consultant designers welcome an opportunity to collaborate with architects alive to the urgent needs of tomorrow.

GEORGE PARNALL & CO. LTD.
Craftsmen and Designers
4 BEDFORD SQUARE, LONDON, W.C.1
Telephone: MUSeum 7101

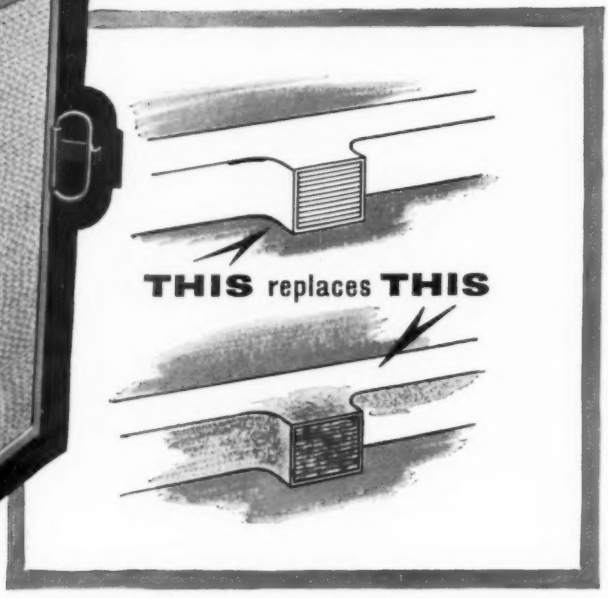
REPLANNING AND MODERNISATION

Left
WARING AND
GILLOW
China Dept.

Right
J. F. TAYLOR & Co. Ltd.
BRISTOL
Dress Materials Dept.

97% EFFICIENCY

in the 5 micron range



Particles under 5 microns cause the unsightly smudge around air supply diffusers, on ceilings and walls. More than 20 square feet of effective filtering area are contained in every 20″ × 20″ × 8″ FAR-AIR HP unit panel: this provides 97% efficiency of solids removal on the 5 micron (smudge) size of dust particles, with minimum pressure loss in ventilating systems. Designed for use as an after-filter in combination with FAR-AIR high-velocity viscous impingement air filters, the Type HP Filter is recommended for those applications that require an exceptionally high degree of air cleanliness, particularly where the need for frequent air changes involves the handling of large volumes of air at high velocities.

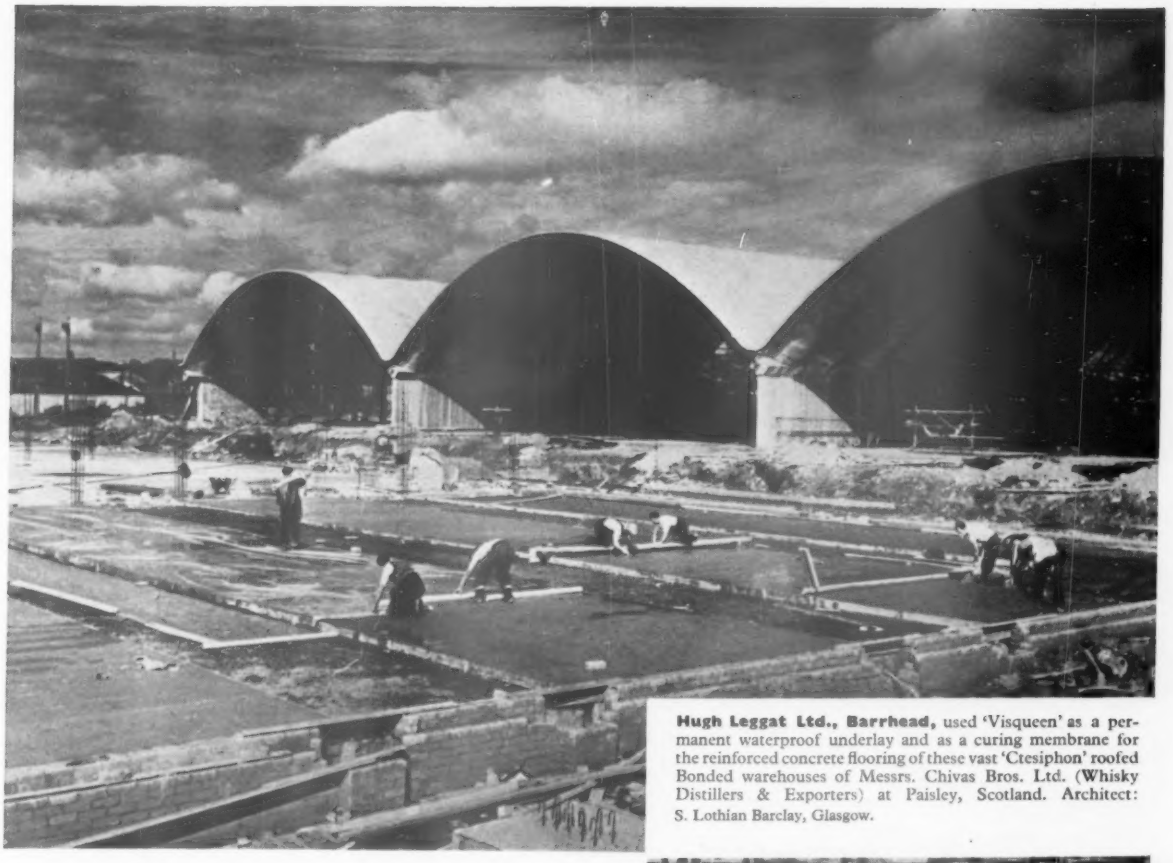
for HIGH *efficiency at* LOW *cost —*

interpose an **INTERMIT**

FAR-AIR Type HP High-Velocity AIR FILTER

INTERMIT LIMITED Bradford Street, Birmingham, 5. Telephone: Midland 7961/4

Member of the **Birfield Group**



Hugh Leggat Ltd., Barrhead, used 'Visqueen' as a permanent waterproof underlay and as a curing membrane for the reinforced concrete flooring of these vast 'Ctesiphon' roofed Bonded warehouses of Messrs. Chivas Bros. Ltd. (Whisky Distillers & Exporters) at Paisley, Scotland. Architect: S. Lothian Barclay, Glasgow.

Up-to-date builders fight rising damp with

VISQUEEN film

TRADE MARK

'VISQUEEN' building sheet makes an excellent damp-proof membrane under concrete flooring and foundations. It is fully impermeable and acts as a complete barrier to liquids. 'Visqueen' also resists acid subsoils and alkalis. Once laid it will last indefinitely either in or under concrete.

'Visqueen' is inexpensive and easy to handle on site. Its lightness, flexibility, availability in wide widths and various thicknesses makes 'Visqueen' efficient and labour saving.

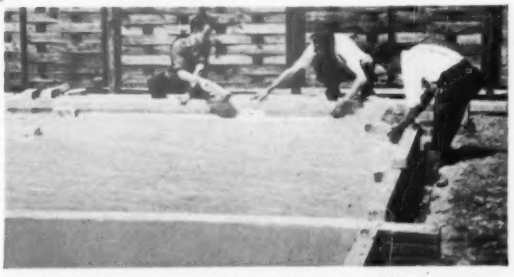
'Visqueen' 250 (medium weight) or 500 (heavy weight) is recommended for this particular application.

For an illustrated brochure, samples and prices write to the address below.

BRITISH VISQUEEN LIMITED

STEVENAGE · HERTS · 'PHONE STEVENAGE 1310

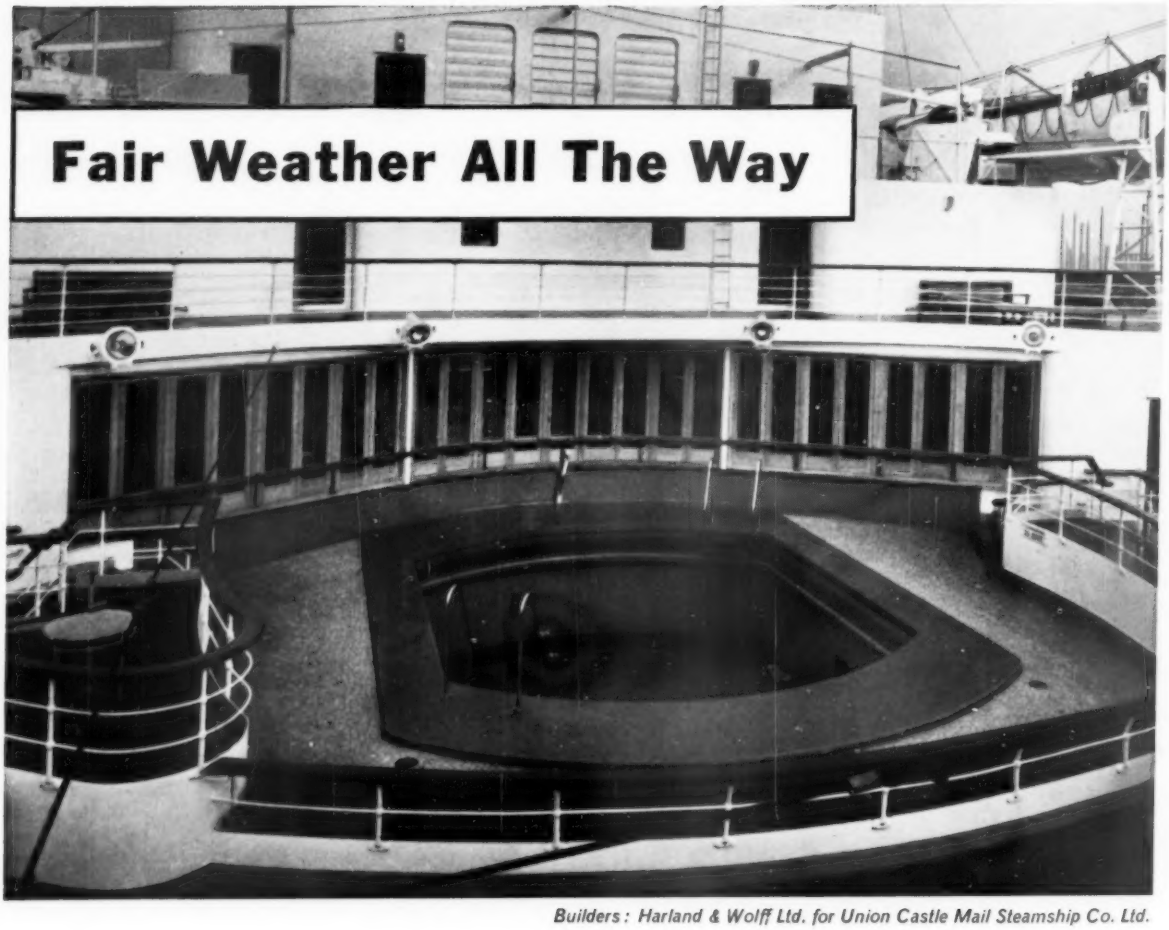
A SUBSIDIARY OF IMPERIAL CHEMICAL INDUSTRIES LIMITED



Unity Structures Ltd., London, used 'Visqueen' 500 (heavy weight) as a damp-proof membrane between the hardcore and concrete flooring of these two semi-detached prototype houses built by them at Ruislip. The film was laid at floor level in 12 ft. widths in one continuous strip over the party walls, and built into cavity walls at D.P.C. level.

John McLean & Sons Ltd. of Wolverhampton, use 'Visqueen' sheeting as a damp-proof membrane under the ground floor rafts of their "Beverley" houses in the Midlands. Architects: Diamond Hodgkinson & Partners.

BV.127/1



Builders: Harland & Wolff Ltd. for Union Castle Mail Steamship Co. Ltd.

No wind or rain when they're closed—all the sun

whether open or closed—two sets of Esavian folding and

sliding glazed screens help make "Pendennis Castle"

passengers' trips much more pleasant.

Worth knowing more about.

For full details write to:

Esavian Ltd., Esavian Works, Stevenage, Herts. Telephone: Stevenage 500
Esavian Works, Carfin, Lanarks. Telephone: Holytown 391
185 Tottenham Court Road, London, W.1. Telephone: MUSeum 9772

THE ESAVIAN PRINCIPLE

FOR FOLDING AND SLIDING DOORS, WINDOWS, PARTITIONS AND SCREENS

EVERYBODY KNOWS A STELRAD!

What a Corker!

In the building programme of New Zealand, Stelrad radiators are prominently featured. They have been specified for many different buildings, and include both wall and column types. The Stelrad range covers every building need from angled wall radiators to column radiators curved for bay window fixing. The dimensions and heat emissions of each type and size are clearly set out in our catalogue to assist you in your calculations. May we send you the latest edition?

STEEL RADIATORS LIMITED

BRIDGE ROAD, SOUTHALL, MIDDLESEX
Telephone: SOUthall 2603

Planet House, Chiltern Street, Baker Street, London. *Architects:* R. Seifert and Partners.

MODULAIR HEATING *in Planet House*

Modern modular construction brings with it the problem of providing a heating system in which each constructional module is also a thermal entity, so that partitions can be located after the building design is settled, or indeed after the building is in use. Weatherfoil Modulair Heating is the complete answer to this problem. Modulair units are made to suit the exact requirements of the module of the building, so that however the floor areas may be divided or altered the requisite thermal capacity is retained in each room.
Modulair has been selected to heat Planet House, now in course of erection in Chiltern Street, London.

WEATHERFOIL MODULAIR HEATING FOR COMMERCIAL BUILDINGS

Designed, installed and serviced by Weatherfoil.

WEATHERFOIL
REGISTERED TRADE MARK

WEATHERFOIL HEATING SYSTEMS LIMITED
Head Office: 185 Bath Road, Slough, Buckinghamshire. Phone: Slough 25561
19 Berkeley Street, London, W.1. Grosvenor 5146 Broadgate House, Coventry, Warwickshire. Coventry 40110

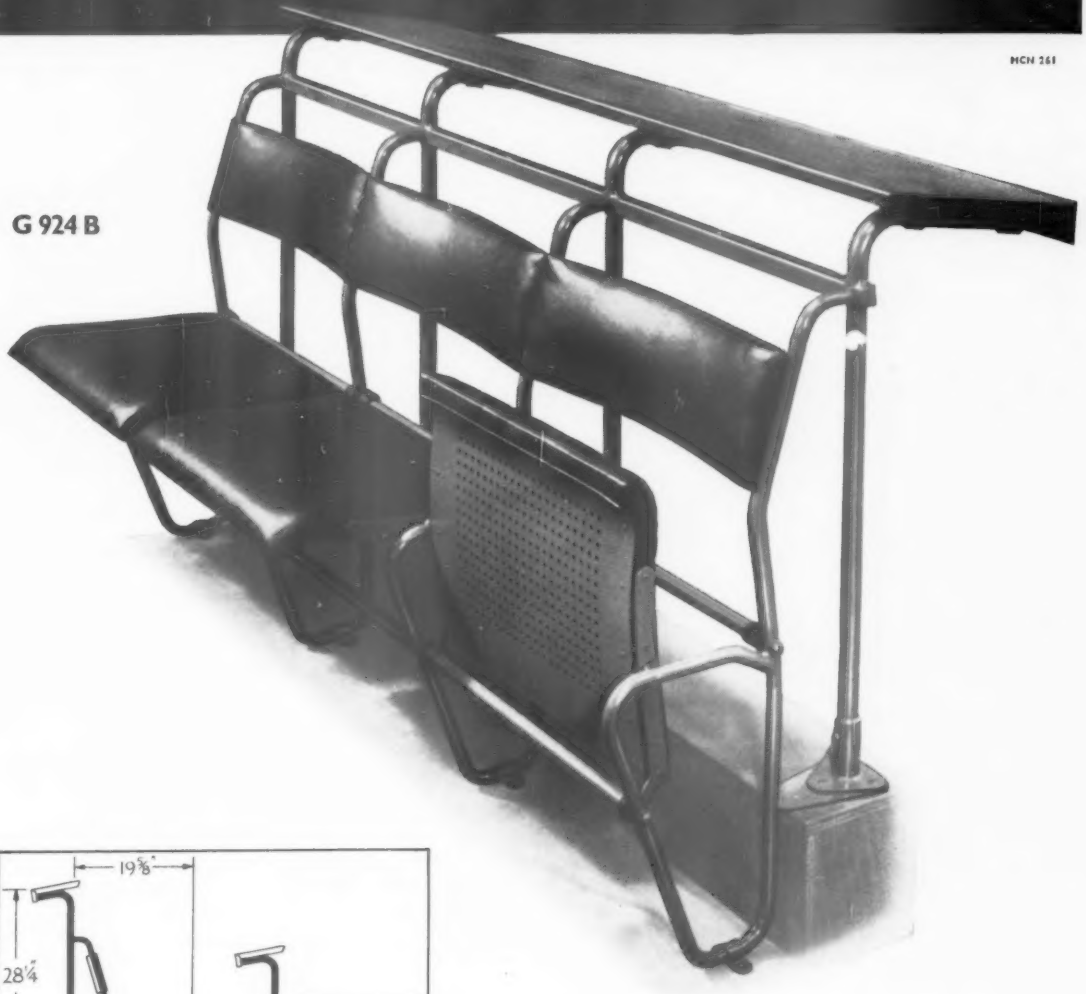
DESIGN AND INSTALLATION OF ALL TYPES OF HEATING, HOT AND COLD WATER SYSTEMS, AIR CONDITIONING AND AIR TREATMENT PLANT

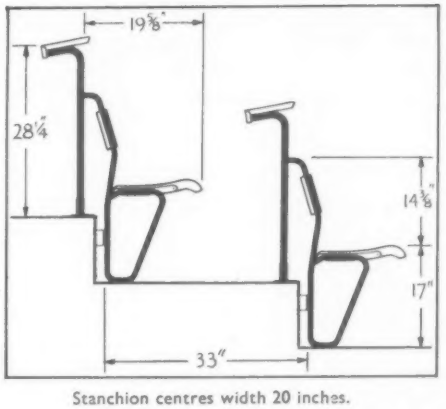
COX

SPECIALISTS
IN
TIP-UP SEATING

HCN 261

G 924 B





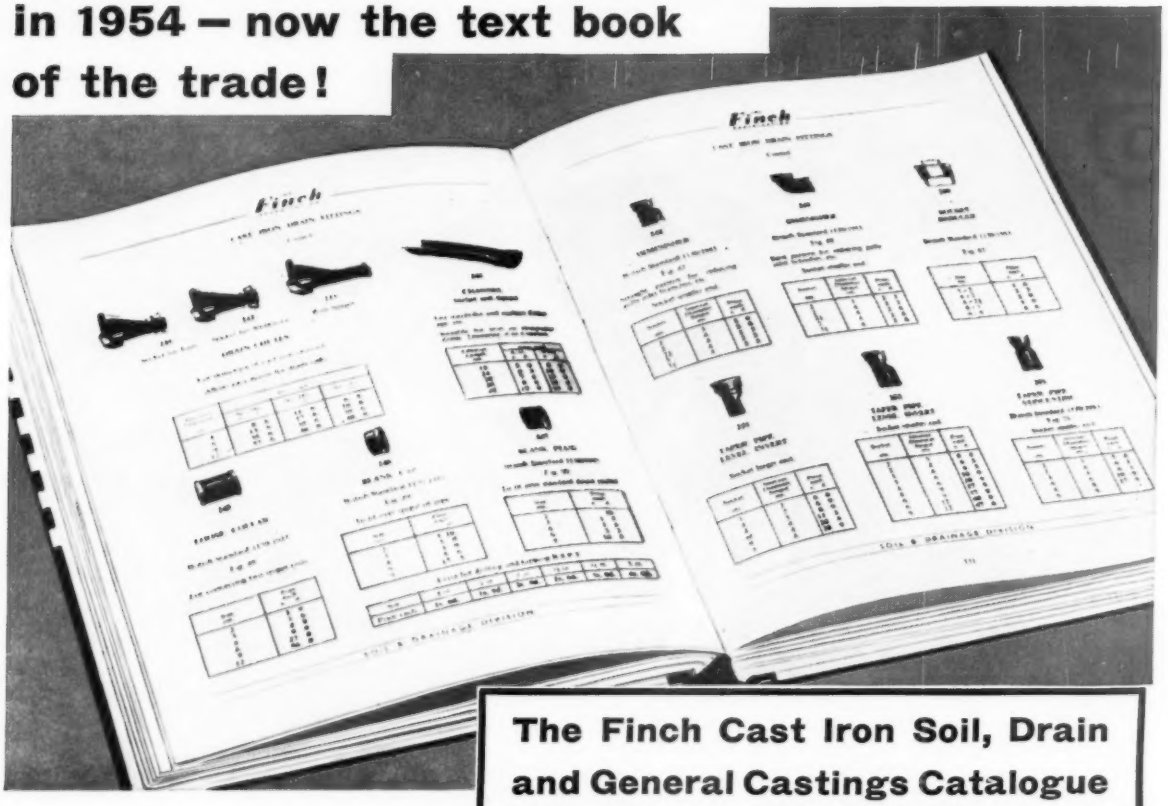
Stanchion centres width 20 inches.

An inexpensive form of tip-up seating, fitted with writing ledge, for permanent floor fixing. The seats are upholstered, and the back-rest is of preformed plywood or upholstery to match the seat.

A descriptive illustrated booklet will be sent on request.

COX & CO (WATFORD) LTD · WATFORD BY-PASS · WATFORD · HERTS · Telephone: **WAtford 28541**

A *SENSATIONAL* technical catalogue issued in 1954 — now the text book of the trade!



The Finch Cast Iron Soil, Drain and General Castings Catalogue

NEW 1959 EDITION NOW AVAILABLE!

Original editions of this catalogue have already been accepted as the finest and most comprehensive text book of its kind ever issued to the trade. Now, Finch bring it right up-to-date with this new, more comprehensive than ever edition.

An essential reference book for Architects, Surveyors, Builders and Plumbers, it is divided into sections for quick reference and contains a mass of carefully tabulated technical information, as well as Tables of Measurements, latest fittings, Prices, etc.

Over 20,000 copies of the first edition are already in circulation. An overwhelming demand is anticipated for this new special Library Edition which can obviously only have a limited circulation to Architects, Surveyors, Building and Plumbing Contractors. Write today giving name of your Company.

COMPLETELY INDEXED AND PRICED
Including 24-page Price List for periodic revision.

the catalogue deals fully with the following subjects

SOIL & WASTE PIPES & FITTINGS · RAINWATER PIPES & FITTINGS WATERMAIN PIPES & FITTINGS · GUTTERS & RAINWATER HEADS GENERAL CASTINGS · DRAIN PIPES & FITTINGS & ACCESSORIES MANHOLE COVERS & FRAMES & ROAD GULLY GRATINGS · SEWAGE DISPOSAL EQUIPMENT · SLUICE VALVE & WATER CONTROL APPARATUS · PLUMBERS' TOOLS & DRAIN-TESTING APPARATUS

HANDBOOK EDITION

For general distribution there is this more compact edition of the catalogue designed for practical everyday use both in the office and on the site. Available on application.

THE *Finch* ORGANIZATION

B. FINCH & CO. LTD · BELVEDERE WORKS · BARKINGSIDE · ESSEX
VALentine 8888 (30 lines)

Colorizer Paints

have more than thirty times
as many colours to choose from
as other paints.

That's just one good reason
why more and more architects
are specifying Colorizer.

YOU COULD EAT OFF THE FLOOR

Staff Restaurant, Decca House, Albert Embankment, S.E. Reproduction by Courtesy of Decca Record Co. Ltd.

Here is another example of TRINASCOLIN Linoleum Flooring, laid by craftsmen of the Limmer & Trinidad Group of Companies, who are specialists in all types of Decorative and Industrial Surfaces. Descriptive leaflets are available.

THE LIMMER & TRINIDAD LAKE ASPHALT CO. LTD.,
Trinidad Lake House, 232-242, Vauxhall Bridge Road, London, S.W.1.
Telephone: TATe Gallery 4388

THE WESTERN TRINIDAD LAKE ASPHALT CO. LTD.,
Asphalt House, St. Mary Street, Cardiff. Cardiff 24731

THE TRINIDAD LAKE ASPHALT CO. (NORTH WESTERN) LTD.,
India Buildings, Water Street, Liverpool, 2. Central 8591

MEMBERS OF THE
LIMMER & TRINIDAD GROUP OF COMPANIES

THE

CAVENDISH

TABLE-TOP WASH BASIN

Design Registration No. 890751

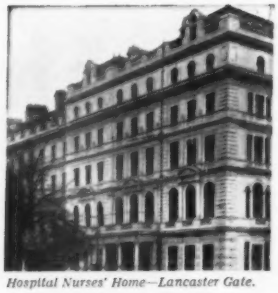
ELEGANT and restrained, this wash basin has been designed specially for mating with a table top. Made in Shanks' superb Vitreous China, it is obtainable in six exquisite colours as well as white. The beautiful *Sheerline* fittings give added distinction.

Shanks

SHANKS & CO., LTD., TUBAL WORKS. BARRHEAD. SCOTLAND

everywhere

Key Glass Works—Harlow, Essex.
Architect Eric S. Brown B.Sc., F.R.I.C.S.



Hospital Nurses' Home—Lancaster Gate.

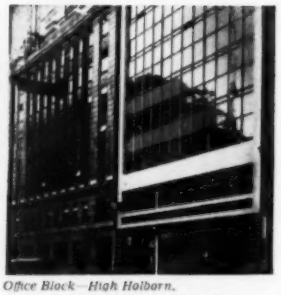
Flats at Eastcote, Middlesex.
Architect H. Duncan A.R.I.B.A.

City of London Boys' School
—Blackfriars.

Smithson

Nuffield Trust Hostel—Regents Park.
Architect Eric S. Brown B.Sc., F.R.I.C.S.

Notre Dame Church—Leicester Square.
Architect Professor Corfiato F.R.I.B.A., F.S.A., S.A.D.G.



Office Block—High Holborn.
Architects George, Davies and Webb.

Royal Chapel—Savoy Hill.
Architect A. B. Knapp-Fisher M.V.O., F.R.I.B.A., F.S.A., Hon. A.R.C.A.

paints

Leading Architects specify Smithson paints . . .

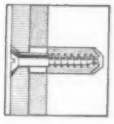
because SMITHSON paints are modern paints and the quality is unrivalled. SMITHSON paints are backed by 170 years of experience in paint manufacture and technology, and by modern research employing the latest researching techniques and equipment. SMITHSON quality control methods are rigid, to ensure the highest ever consistency in quality. Add to all this the many SMITHSON personal services and you can appreciate why leading architects specify SMITHSON paints.

THOMAS SMITH & SON LTD., 238/240, Whitechapel Road, London, E.1.

MODERN MATERIALS NEED MODERN METHODS

Old-fashioned fixing methods are *always* wasteful, and often enough entirely inadequate for modern materials. Whatever the material—brick or glass, solid or cavity—you'll make absolutely firm screw or bolt fixings many times faster with Rawlplug Fixing Devices and Tools.

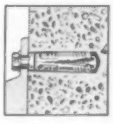
SCREW FIXINGS



RAWLPLUGS for neat firm fixings in brick, stone, etc. Rotproofed and waterproofed for use in all climatic conditions. All screw sizes up to ¼" diameter coach screws.

Rawlplug WHITE BRONZE PLUGS for fixings subject to very high temperatures, such as the outer brick coverings of furnaces. Also for underwater fixtures.

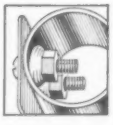
BOLT FIXINGS



RAWLBOLTS for bolting down machines—a rock-firm *dry* fixing that grips by expansion. No cold chiselling, no waiting for cement to harden. Sizes up to 1" bolt diameter.

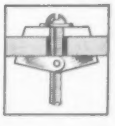
Rawlplug BOLT ANCHORS for bolting down in extremely wet or corrosive situations. Caulking completely seals the anchorage. Also for anchoring Diesel Generators, Power Hammers, etc.

CAVITY FIXINGS



Screwed up from the front, the amazing RAWLNUT forms its own rivet head behind the material—airtight, watertight, vibration-proof, squeak-proof. For all thin or hollow materials.

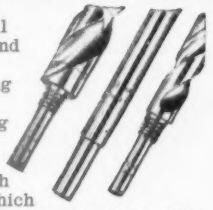
Rawlplug SPRING TOGGLES for ceilings of lath and plaster, plasterboard, etc. The Toggle springs open behind the material, spreading the load over a wide area.



RAWLPLUG DURIUM
THE FAST DRILLING, SILENT MASONRY DRILL— AND THE MOST DURABLE

With its ultra-tough, almost diamond-hard Durium tip, and its patented rapid-helix flute to force out spoil and prevent clogging, Durium drills brick, tile, cement, slate, marble, etc. with a speed of penetration that is truly amazing.
It is this same toughness of the Durium tip, and the stronger backing given it by the specially designed flute, that gives a Durium Drill its astonishing ability to stand up to the abrasive action of masonry which so quickly ruins ordinary drills.
Only a Durium Drill has such sharp, silent, easy cutting accuracy, such amazing drilling speed, such sheer durability!

FULL RANGE—DRILLING LENGTHS UP TO 16" TOO!



Durium Drills are made for all sizes of Rawlplugs from No. 6 to No. 30 (i.e. drill cutting diameters from 5/32" up to 1") and also for Rawlbolts sizes C, D, E & G.
Durium Drills are also made in the Long Series to facilitate the work of laying conduits, cables, pipes, etc. Five cutting diameters (¼" up to ⅜") are available in 6" drilling lengths; six cutting diameters (⅜" up to 1") are available with threaded ends to take extension rods which provide for overall drilling lengths of approximately 12" and 16".

DURIUM *GLASS* DRILLS

These high-efficiency drills can be used in a wheelbrace or suitable electric drill. 9 cutting diameters, from ¼" up to ½".

BY HAND OR POWER

Durium Drills can be used very successfully in an ordinary wheelbrace, but where drilling is carried on fairly regularly, or on a large scale, a Rawlplug R.P.1. Slow Speed Electric Drill is a time-saver that will pay for itself over and over again. With full load speed of 450 r.p.m. this easy-to-handle power tool will give quite sensational results with Durium Drills.

FREE RE-SHARPENING SERVICE

When, at long last, your Durium Drill begins to lose its keenness, return it to us with the complimentary voucher supplied with it, and we'll re-sharpen FREE!
Durium Drills are sold in the bright orange and blue metal container clearly marked Rawlplug Durium. Look for the name DURIUM on the drill shank—no other is a genuine DURIUM Drill.

RAWLPLUGS

RAWLPLUG FIXING DEVICES AND TOOLS

21 different types of fixing devices for speed and strength

Write now for illustrated literature containing full details of Rawlplug Fixing Devices and the many high performance Rawlplug tools (hand, electric and pneumatic).

THE RAWLPLUG CO. LTD., CROMWELL ROAD, LONDON, S.W.7

B635

The world's largest manufacturers of fixing devices

When it's a question of VENEERS call in GLIKSTEN

There is a choice of fine DECORATIVE VENEERS at STRATFORD, ranging through the alphabet from Avodire to Zebrano. Among them it will be surprising if you don't find the exact veneer the job demands. Right in quality, quantity and cut. If you would like to come along and inspect our stocks, we should be happy to show you round: Ring or write to the Gliksten Veneer Division.

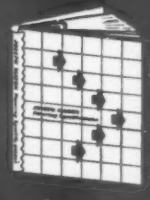
J. GLIKSTEN & SON LTD

Carpenters Road, London, E.15 *Tel.: AMHerst 3300*
Liverpool Office: 87 Lord Street *Tel.: Central 7576*
Hull Office: Victoria Dock, Citadel Street *Tel: Hull 31144*

Gliksten

THE FOREMOST NAME IN TIMBER

of course mason's add something extra to their paint



Practising architects are invited to write for this helpful book—"Joseph Mason Painting Specifications"

However good the paint, quality alone is not enough. That "extra something" is the expert co-operation of our Technical Team to ensure correct planning and application. The colour choice in Masopar includes the full B.S.S.2660 range.

joseph mason paints

JOSEPH MASON AND COMPANY LIMITED, DERBY. TELEPHONE: 40691-2-3

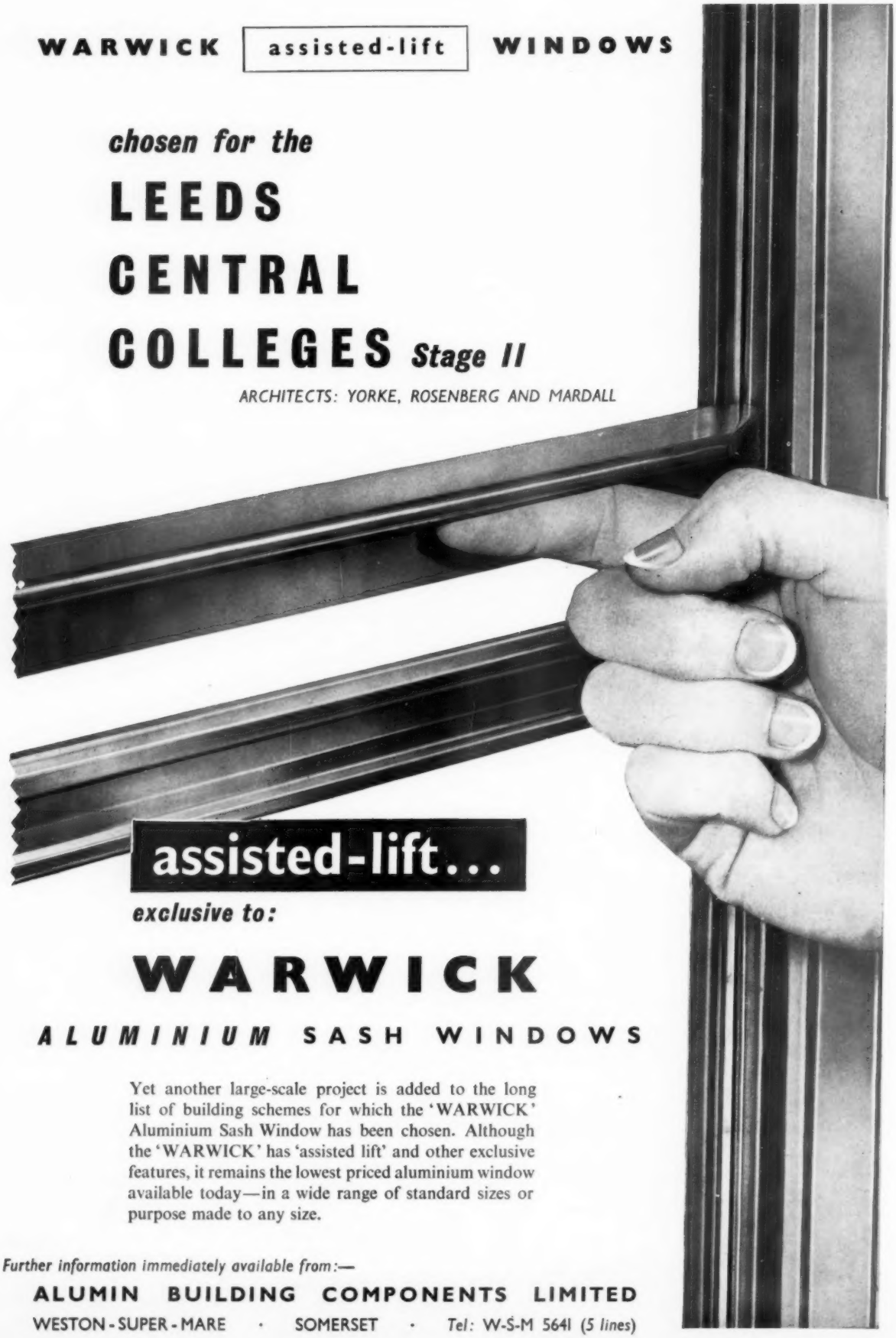
MANUFACTURERS OF VERY GOOD PAINTS SINCE 1800

WARWICK assisted-lift **WINDOWS**

chosen for the

LEEDS CENTRAL COLLEGES *Stage II*

ARCHITECTS: YORKE, ROSENBERG AND MARDALL



assisted-lift...

exclusive to:

WARWICK

ALUMINIUM SASH WINDOWS

Yet another large-scale project is added to the long list of building schemes for which the 'WARWICK' Aluminium Sash Window has been chosen. Although the 'WARWICK' has 'assisted lift' and other exclusive features, it remains the lowest priced aluminium window available today—in a wide range of standard sizes or purpose made to any size.

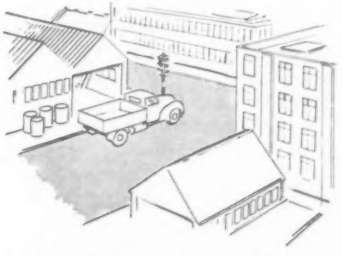
Further information immediately available from:—

ALUMIN BUILDING COMPONENTS LIMITED

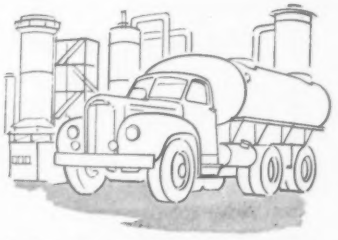
WESTON-SUPER-MARE · SOMERSET · *Tel:* W-S-M 5641 (*5 lines*)

Traffic control for busy garage approaches

Vehicles move safely when A. T. & E's Electro-matic Controller is installed. All day and every day, the clear signals will help to ensure continuous traffic flow, and facilitate greater certainty of safer and quicker manoeuvring. The A.T.E. Electro-matic Controller is of a simplified design and is available at an attractive price.



Factory Estates. *A. T. & E's Electro-matic Controller establishes efficient and safe circulation of transport within works precincts, both for roads and level-crossings.*



Refineries. *The A. T. & E. Electro-matic controller provides the extra safety demanded on refinery roads, ensuring efficient movement and dispersal of all types of vehicles.*

AUTOMATIC TELEPHONE & ELECTRIC CO. LTD.
Strowger House, Arundel Street, London, W.C.2. *Telephone: TEMple Bar 4506.*
Telegrams: Strowger Estrand London. Strowger Works, Liverpool, 7.

AT 10832

Heard the news from WEYROC?

As a result of increased production from new automatic plant...

WEYROC has always had the reputation of being *the board you can trust*—to do so many jobs, so well. Now, new developments put WEYROC even further ahead as the *board of choice* for the Building and allied Trades.

Blue Label WEYROC has been discontinued and in its place comes a new, improved form of WEYROC . . . in quantities never possible before. This new, improved WEYROC is lightweight, strong, stable and durable, with smooth-sanded moisture-resistant surfaces for easier working. In short, a very much more *precise* board than before. As such, it has marked advantages for almost every job in building* which calls for flat-form timber. This new WEYROC is available . . .

in a choice of boards.

weyroc '34'
layer construction board
8′ x 4′ boards

weyroc '38'
graded density board
12′, 8′ and 4′ x 5′8″ boards

Both boards produced in ½″, ⅝″ and ¾″ thicknesses nominal and cost between 1/1¼d. and 1/6d. per sq. ft. (according to thickness).

Although these Boards are almost identical in strength characteristics and surface properties, we recommend WEYROC '34' particularly for the Building Trades. This is because it is available in the standard building board size and because it has a slightly higher impact resistance.

* N.B. *These Boards are not suitable for suspended flooring.*
As Blue Label WEYROC has now been discontinued, this means that there is at present no WEYROC board for flooring. However, it is our intention to produce a new, special flooring grade in the very near future.

weyroc
one of the world's great man-made materials

WPS 70

There never was a better looking, cleaner working, more efficient central heating boiler than the new CRANE CAVENDISH

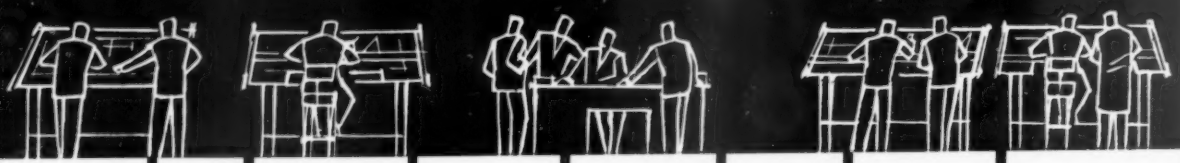
- A range of solid fuel burning boilers* for whole house warming and indirect hot water supply.
- Elegant and labour-saving design.
- Attractive colour range to match most schemes.
- Rocking grate of new design (patent applied for).
- Ultra-sensitive thermostat (on solid fuel models only) and thermometer sensibly placed near flue control.
- The beautifully finished stove-enamelled jacket is so designed as to necessitate only one set of doors for riddling and fuelling.
- Large capacity ashpan effectively dust-sealed.
- Doors opening to wide angle.

**Also available for oil burning.*

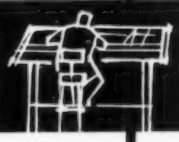
RATINGS		OUTPUT B.t.u. PER HOUR
Solid fuel boiler	No. 3	33,000
	No. 4	47,000
	No. 5	61,000
Oil burning boiler	No. 3L	30,000
	No. 4L	45,000
	No. 5L	60,000

A FULLY INFORMATIVE LEAFLET is available on application to
CRANE LTD., 15-16 RED LION COURT, FLEET STREET, LONDON, E.C.4. WORKS: IPSWICH
Branches: Birmingham, Brentford, Bristol, Glasgow, London, Manchester

G.9



VINCULUM

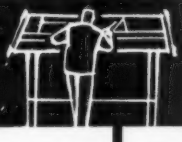


A complete service

VINCULUM

...to the Architect

VINCULUM



and the Builder

VINCULUM

PRE-CAST CONCRETE

...for every purpose

TG **TARMAC VINCULUM LIMITED**

ETTINGSHALL · WOLVERHAMPTON *Telephone BILSTON 41101. (12 Lines)*

DRAYTON HOUSE 30 GORDON STREET LONDON WC1

CLAY PRODUCTS TECHNICAL BUREAU

specify ceramic glazed

fireclay

sanitary ware

in hotels, where quality sets the tone,
where breakage can mean
costly replacements & loss of revenue,
where good looks must combine
with robustness .... with dependable
glazed fireclay, first cost is last cost.

FORMICA* present

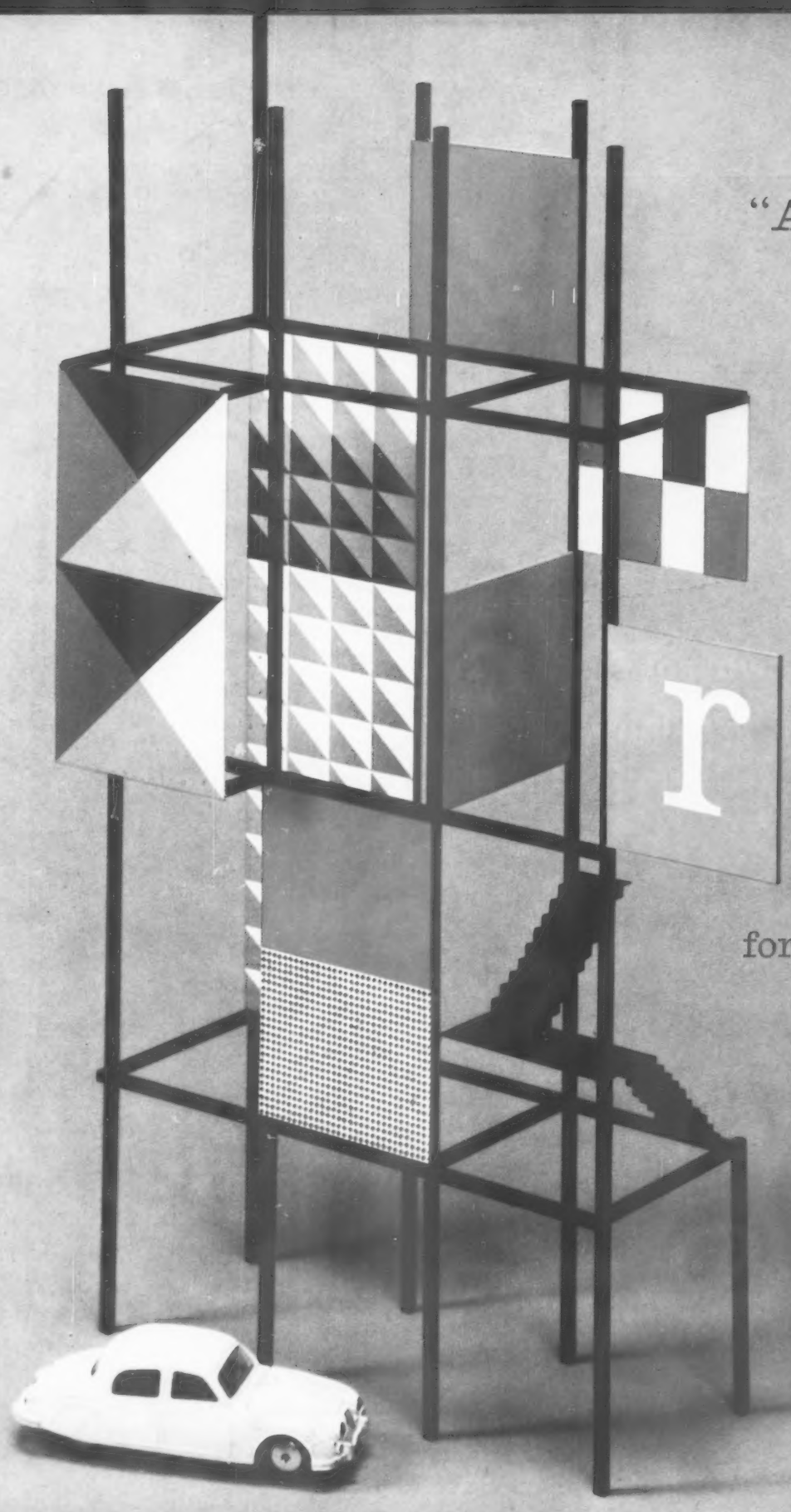
VANITORY* units!

For the modern bathroom, for the hotel bedroom, for the school washroom . . . let your planning include the VANITORY unit, Formica's new contribution to a pleasanter, more convenient life. Instead of all the separate elements of bowl and taps, towel rail, mirror, cupboard or shelf, think of one compact and space-saving and handsome fitment which unites them all. Specify VANITORY units, with their smooth, beautiful, everlasting FORMICA surfaces.

The VANITORY unit is not just a *thing* . . . it's a *principle* . . . a flexible idea. Leading manufacturers of bathroom fittings, in conjunction with Formica Ltd., have designed their own VANITORY units to suit many preferences and special demands, from the cloakroom of a big hotel to the guest-room of a private house. See them, and see how exactly they accord with modern needs—and your own thinking! Remember, VANITORY units are only surfaced in . . .

FORMICA-THE FINEST OF ALL THE DECORATIVE LAMINATES

*VANITORY *and* *FORMICA *are registered trade marks. Formica Ltd. (Vanitory Enquiries) De La Rue House, 84 86 Regent St., London W1*



"Armourclad" Glass Cladding

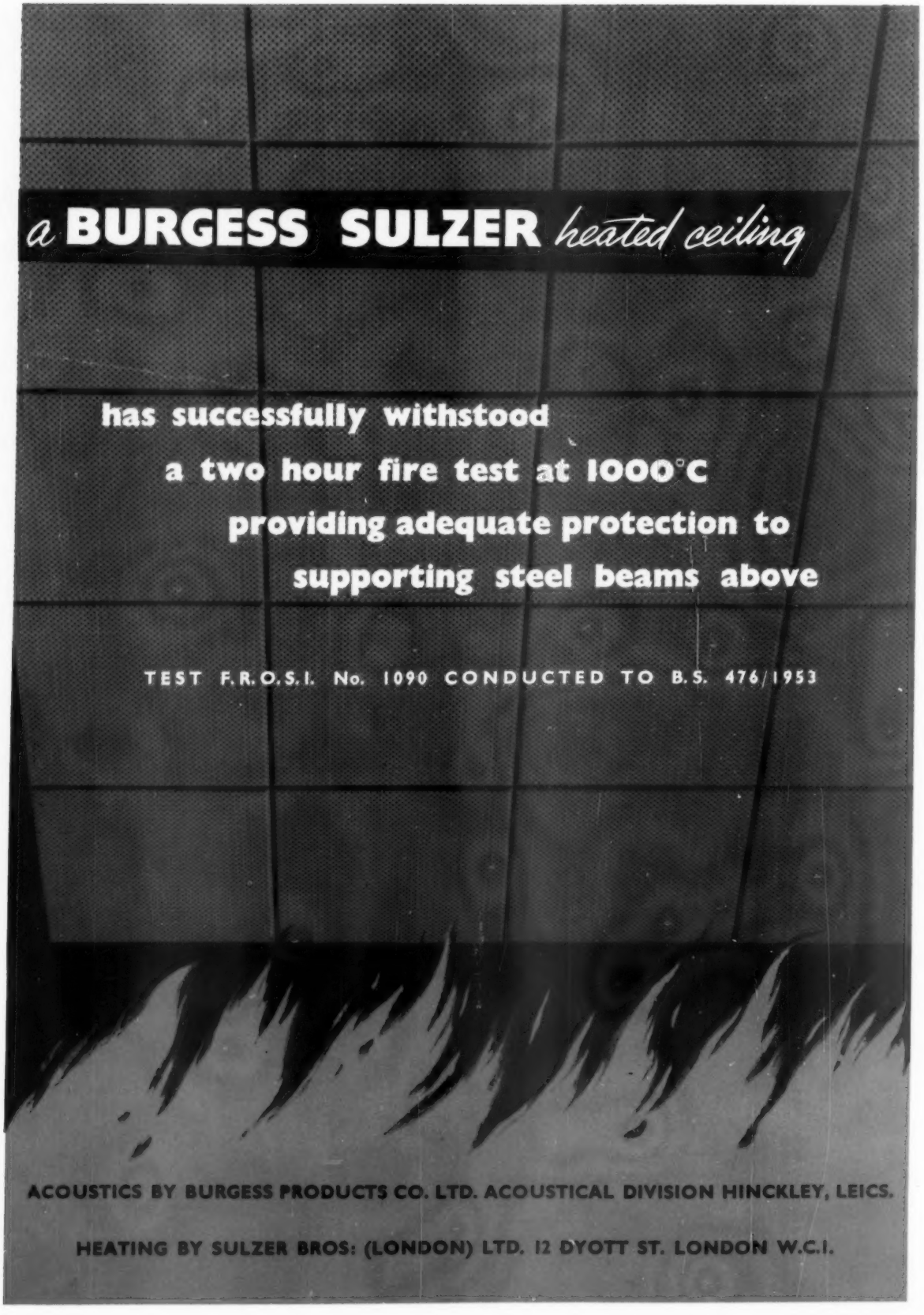
for versatility and richness in pattern and texture

Custom-made 'ARMOURCLAD' glass panels give new freedom to the architect and designer.
For further information on the use of glass in cladding and curtain walls consult Pilkington Brothers Ltd., manufacturers of 'ARMOURCLAD' and 'MUROGLASS'.

Pilkington Brothers Limited

'ARMOURCLAD' AND 'MUROGLASS' ARE GUARANTEED FOR 5 YEARS

ST. HELENS, LANCS. (TEL: ST. HELENS 4001) OR SELWYN HOUSE, CLEVELAND ROW, ST. JAMES'S, LONDON, S.W.1 (TEL: WHITEHALL 5672-6)
SUPPLIES ARE AVAILABLE THROUGH THE USUAL TRADE CHANNELS. 'ARMOURCLAD' IS A REGISTERED TRADE MARK OF PILKINGTON BROTHERS LTD.


a BURGESS SULZER heated ceiling
has successfully withstood
a two hour fire test at 1000°C
providing adequate protection to
supporting steel beams above
TEST F.R.O.S.I. No. 1090 CONDUCTED TO B.S. 476/1953
ACOUSTICS BY BURGESS PRODUCTS CO. LTD. ACOUSTICAL DIVISION HINCKLEY, LEICS.
HEATING BY SULZER BROS: (LONDON) LTD. 12 DYOTT ST. LONDON W.C.I.

project papermaking

WRIGHT, ANDERSON & CO. LTD. are proud to associate themselves with this special feature detailing the expansion of the Bowater Paper Corporation. At Ellesmere Port we were responsible in co-operation with the Consulting Engineers, Messrs. Ewbank & Partners, and the Architects, Messrs. Farmer & Dark for the design, fabrication and erection of the Extension to the Power House involving 1,000 tons of structural steelwork.

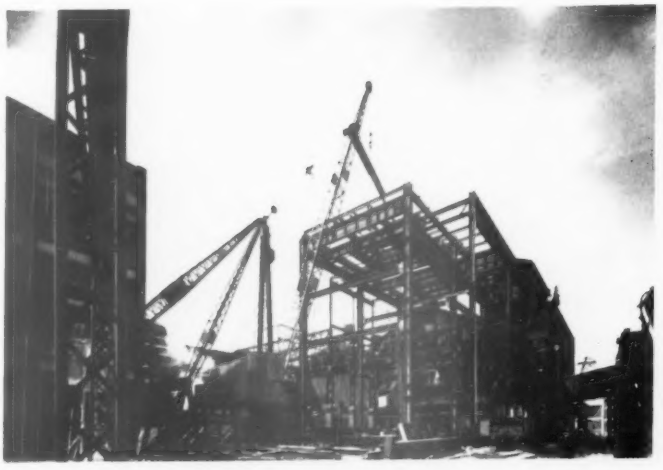
In addition at Ellesmere Port and as a direct contract to Bowater Paper Corporation, we carried out the fabrication and erection of the Pulp Stack Gantries.

At Northfleet in conjunction with the Architects, Messrs. Farmer & Dark, we carried out the design, fabrication and erection of:

5/6 MACHINE BUILDING
No. 5/6 MACHINE FLOOR
No. 6 REEL STORE
¾ REEL STORE
MECHANICS SHOP
CANTEEN
SUPERCALENDER AREA

In all on the Northfleet site we were responsible for approximately 5,000 tons of structural steelwork and it has been our privilege to have contributed to this expansion of Bowaters.

No. 5/6 Machine Building and the No. 6 Reel Store under construction.



Initial Stages of Erection of Power House extension at Ellesmere Port.

Wright, Anderson & Co. Ltd

CONSTRUCTIONAL ENGINEERS & BRIDGE BUILDERS

G.P.O. BOX 2, GATESHEAD, CO. DURHAM · Tel: Gateshead 72246 (3 lines) · Grams: "Construct Gateshead"
London Office: REGENT HOUSE, KINGSWAY, W.C.2 · Tel: Holborn 9811
Contractors to H.M. Government Departments, Central Electricity Generating Board, National Coal Board, Atomic Energy Authority and Crown Agents for Overseas Governments and Administrations

the Flexwoodpecker

—not a very game bird!

Flex those muscles, Flexwoodpecker! It's your week-end in the country. Tally ho! for the great outdoors. Ah yes, we know you're *pining* for your panelling. Home, sweet cosy home, with its Flexwood panelling. The club, the pub, the office—all with Flexwood panelling. So civilised and elegant. It's just as well you knew that architect who recommended Flexwood. A bright chap—the *right* chap—who's clad your walls with Flexwood.

FLEXWOOD—for room panelling at remarkably reasonable cost. This top quality sliced veneer is mounted on cloth backing. It comes in a wide range of superb European and overseas hardwoods; it is applied direct to plaster or any other smooth dry surface—even a curved surface—and it cannot warp.

For details of the complete Flexwood service, contact:
ALEXANDRIA TRADING CORPORATION LTD.
121 LONDON WALL E.C.2. PHONE: MONARCH 2272

Flexwood

Face Value!

These models have been specially designed by a leading Industrial Designer for use in modern surroundings. They are available in a range of sizes to suit most normal requirements. If required clocks can be made to special designs to suit particular circumstances or decorative schemes.

* *These Clocks have been accepted by the Council of Industrial Design for inclusion in Design Index.*

The model numbers given refer to Mains operated clocks but the same designs are available for operation on our Controlled Electric "Master" Clock System.

Details of our full range of clocks for Mains operation are given in our catalogue book 5 section 7 and for our Controlled Electric "Master" Clock System, in our catalogue book 5 section 1. The appropriate catalogue will be sent to you on request.

GENTS' OF LEICESTER

ELECTRIC CLOCKS

GENT & CO LTD · FARADAY WORKS · LEICESTER

London Office & Showroom : 47 Victoria St. S.W.1.

Also at BELFAST · BIRMINGHAM · BRISTOL · EDINBURGH · GLASGOW · NEWCASTLE

Other Products include:– BRACKET CLOCKS · TOWER CLOCKS · FIRE ALARMS · BURGLAR ALARMS
PROCESS TIMERS · LIQUID-LEVEL INDICATING APPARATUS · DOMESTIC AND INDUSTRIAL BELLS AND BUZZERS, ETC.

New Building for Clare College, Cambridge

Architect: David Roberts, Esq., M.A., F.R.I.B.A.

Main Contractor

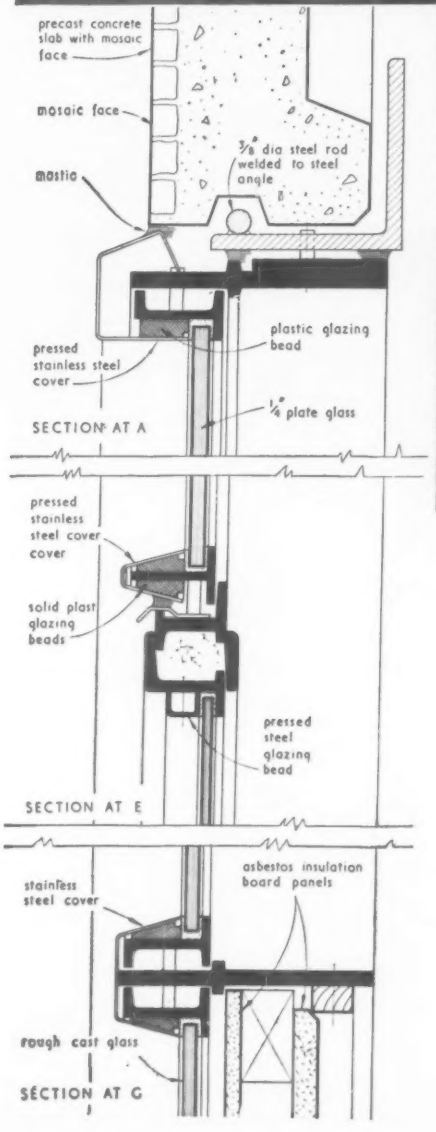
KERRIDGE (CAMBRIDGE) LTD

This is an example of yet another fine building entrusted to us; it was completed in the contract time of sixty weeks.

With our tradition of first-class craftsmanship through many generations, we have built proudly and well in many parts of England, and our associated companies provide the same service with specialist joinery, heating, ventilation and electrical installations.

Head Office: STURTON STREET, CAMBRIDGE *Tel: Cambridge 3262 (7 lines)*

CURTAIN WALLING BY MORRIS SINGER



BOWATER PAPER CORPORATION LIMITED
NORTHFLEET, KENT *Architects: Farmer & Dark, F/F.R.I.B.A.*

Holoform Curtain Walling can be manufactured to meet special requirements both those based on modular co-ordination and to special sizes. The Window Wall for Messrs. Bowater's new Office Block at Northfleet is constructed to suit a 3′4″ grid, modular construction being used both horizontally and vertically. The external face of all members is covered with stainless steel.

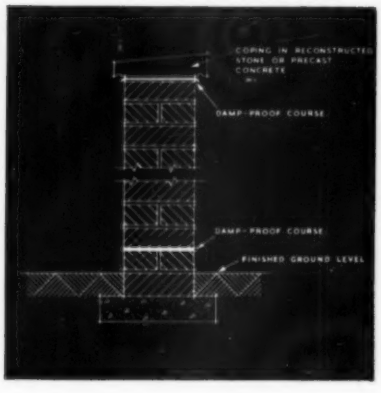
MORRIS SINGER

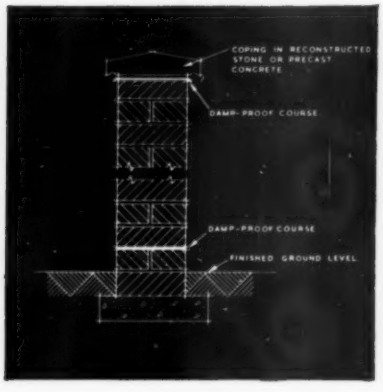
THE MORRIS SINGER COMPANY LIMITED
FERRY LANE WORKS, FOREST RD., LONDON, E.17. Tel: LAR 1055

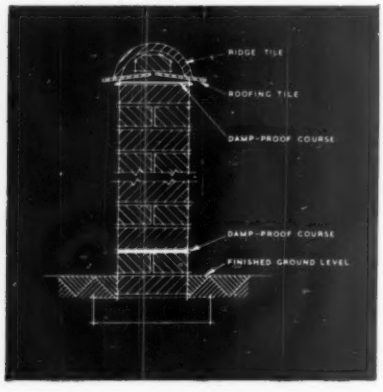
FREE-STANDING WALLS AND WEATHERING

The top of a free-standing wall, such as a garden wall, is exposed to very severe weathering conditions. *'Phorpres' Fletton bricks are not suitable for this position.* If, however, a properly designed and well-constructed coping is provided, 'Phorpres' Flettons can be used in the body of the wall satisfactorily and economically.

THREE ALTERNATIVE DESIGNS







...AND SIX IMPORTANT DETAILS

- The coping units should have a high frost resistance. Dense concrete or reconstructed stone are suitable.
- The coping units should be properly 'weathered' and should be provided with drip channels on both sides of the wall to shed the water clear of the wall faces.
- The drip channels must have sharp edges and be free from mortar or other obstructions. This is most important at joints between the coping units.
- However impervious the coping units may be, the joints between them will not be impervious to the passage of moisture. Hence a damp-proof course should be provided immediately below the coping units.
- To reduce efflorescence to a minimum a damp-proof course should be provided immediately above ground level.
- A mortar mix of 1 part Portland Cement to 1 part Hydrated lime to 6 parts of sand (all by volume) should be used.

PHORPRES

LONDON BRICK COMPANY LIMITED in the service of the building industry

Head Office: Africa House, Kingsway, London, W.C.2. Telephone: HOLborn 8282
Midland District Office: Prudential Buildings, St. Philip's Place, Birmingham 3. Telephone: Central 4141
South-Western District Office: 11 Orchard Street, Bristol 1. Telephone: Bristol 23004/5
Northern District Office: St. Paul's House, 20-22 St. Paul's Street, Leeds. Telephone: Leeds 20771

BY APPOINTMENT TO HER MAJESTY QUEEN ELIZABETH II BRICK MAKERS

SHEPHERD

NEW HOSPITAL WING

Architect: P. H. Knighton, Esq., M.B.E., A.R.I.B.A., Architect to Newcastle North East Regional Hospital Board

— at Middlesbrough

Consult **SHEPHERD** *for*

- ✱ Quality and craftsmanship.
- ✱ Quick and economic construction based on new methods, work study and extensive resources.
- ✱ Advice at design stage of building and on concrete structures, joinery, heating, plumbing and electrical installations.

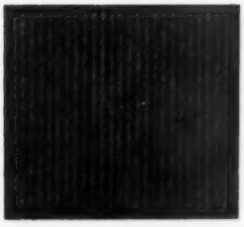
F. SHEPHERD & SON LTD.

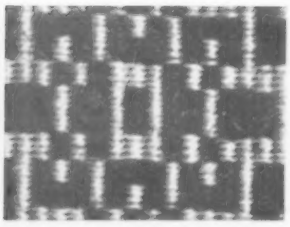
BUILDING AND CIVIL ENGINEERING CONTRACTORS

HEAD OFFICE: **YORK** Telephone: York 53040 (14 lines)

AREA OFFICES: BRADFORD · HULL · RICHMOND and SCARBOROUGH

SHEPHERD ***build more in Yorkshire than any other Contractor***





Replin

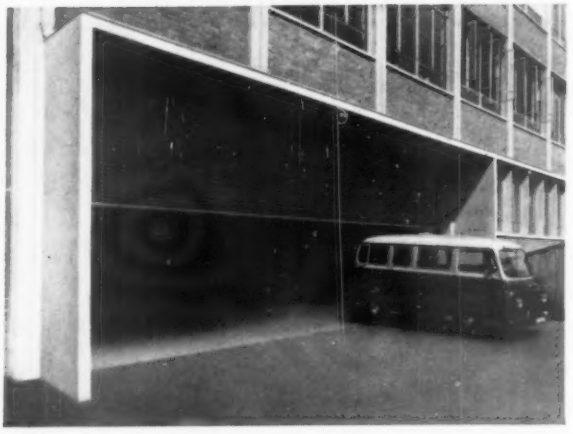
fine furnishing fabrics

Multiple Shoe Store

A hard wearing & easy to clean worsted tapestry weave. 34 plain colours, patterns and stripes available from stock in short lengths. Exclusive designs and crests, stripes, panels woven to order.

British Replin Ltd. 2 South Audley Street., London W1
tel: GRO 6692. Mill: Ayr, Scotland. tel: 63275

Milner for



all roller shutters!

Milner have 50 years of experience in making shutters — their workmanship is of the highest standard — they use only the finest materials.

Among the many exclusive advantages of Milner shutters are these:

Ball bearings at every friction point. Deep side guide channels for security. Close-coiled helical torsion springs ensuring a balanced curtain and ease of operation. Deep section curved slats for strength.

Specifications available for 10 different types of roller shutters and wicket gates. You can choose the shutter best suited for your particular needs from MILNER.

Milner

STEEL EQUIPMENT DIVISION
OF HALL ENGINEERING LTD

Makers of office equipment, shutters and partitioning
Central Sales Office: 60 Rochester Row, London, S.W.1
Telephone: VICtoria 5631
Branches at Birmingham, Bristol Glasgow, Leeds, Liverpool and Manchester

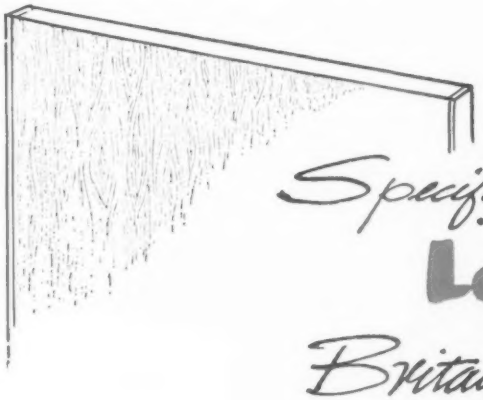
know your Flush Door

2nd of a series of six

You don't use a 'gamp' indoors

Nor is it necessary to edge the top and bottom of a well-designed, well-made FLUSH DOOR for internal use only. It is an additional and unneccessary expense.

Furthermore, if the door is veneered for polishing, the direction of the grain is interrupted and its beauty thereby impaired.
LEADERFLUSH recommend top and bottom edging only where circumstances are exceptional. For example, external doors should be edged along the bottom.



Specify

Leaderflush

Britain's Finest Flush Door

LEADERFLUSH (Doors) **LTD . TROWELL . NOTTINGHAM**

Telephone: Ilkeston 623 (5 lines). Telegrams: "LEADAFLUSH" ILKESTON, NOTTINGHAM

LONDON OFFICE: LEADERFLUSH (Doors) LTD., BUSH HOUSE, ALDWYCH, W.C.2. Tel. Covent Garden 2243

ARCHITECTS ARE INVITED TO MAKE FULL USE OF OUR ARCHITECTS ADVISORY SERVICE

HIGGS AND HILL
LIMITED

LONDON

LEEDS COVENTRY

JAMAICA

Contractors to
Messrs. Bowaters, at Northfleet, for
The Transport Building
Power Houses Nos. 1 and 2
Machine House
Vehicle Entrance Canteen
Thames Mill Offices
See pages 402-406

The Perfect Combination

Combinol Gloss Paint

and

Valspar Eggshell Lustre

Combinol Gloss Paint

Tough — Brilliant — High Gloss Finish.
Excellent spreading power and opacity.
Resists all weather conditions.
Recommended for coastal and industrial areas.

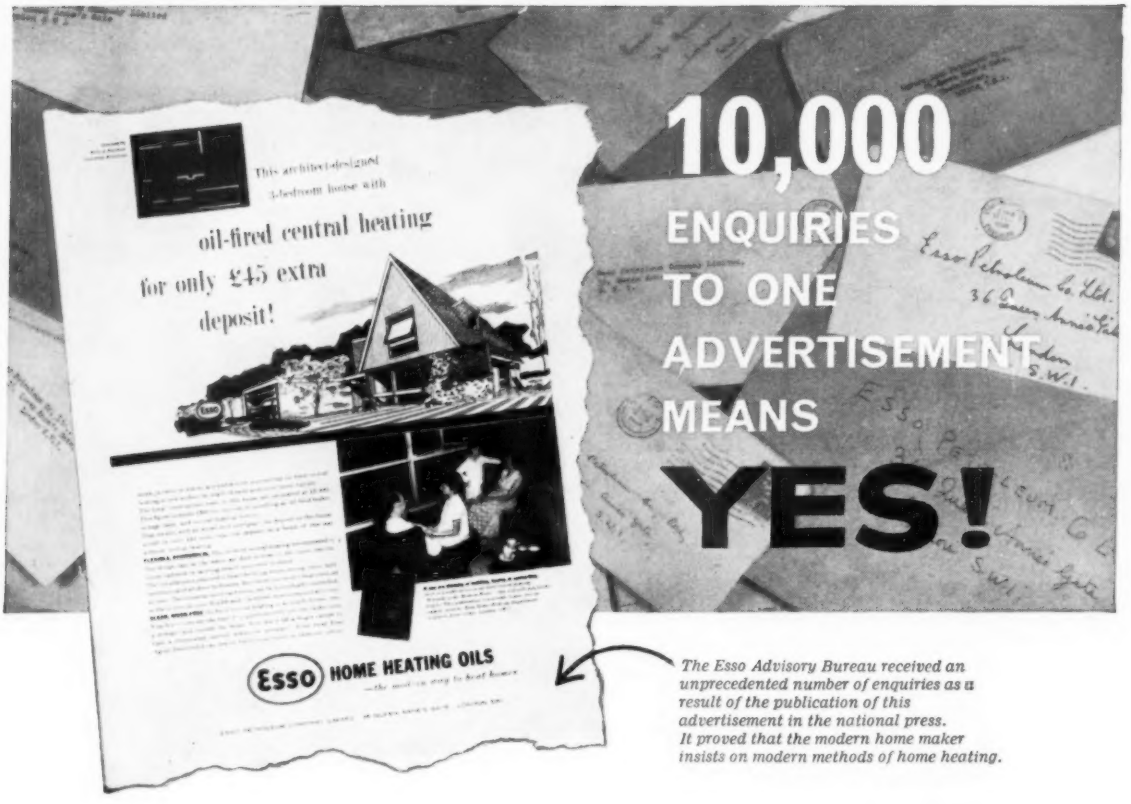
Valspar Eggshell Lustre

Beautiful Eggshell Lustre Finish.
Easy to apply with wide brush, roller or spray.
Resists steam and condensation.
For all interior surfaces.

Also available in the British Standard Range (101 colours)

Manufactured by Goodlass Wall & Co Ltd

DO TODAY'S HOME BUYERS REQUIRE OIL-FIRED CENTRAL HEATING?



The Esso Advisory Bureau received an unprecedented number of enquiries as a result of the publication of this advertisement in the national press. It proved that the modern home maker insists on modern methods of home heating.

PLAN TODAY WITH WIDER SCOPE

From the architect's point of view, the flexibility of pre-planned oil-fired central heating allows greater all-round freedom of design. The efficiency of new burners and boilers is continually improving. Supplies of fuel can now be guaranteed. Esso maintains a special department staffed by fully-qualified men to help architects in the pre-planning of oil-fired central heating. For further information about this valuable Esso service please write to the address below.

ESSO **Home Heating Oils**
—the modern way to heat homes

ESSO PETROLEUM COMPANY, LIMITED, HOME HEATING ADVISORY SERVICE, (DEPT. M) 36 QUEEN ANNE'S GATE, LONDON S.W.1

Westminster Bank Limited, Overseas Branch; Threadneedle Street, E.C.
Architects: S. F. Everson and D. F. Searles, A/A.R.I.B.A.

Efficiency in Steel

A COMPREHENSIVE INSTALLATION

Conversion of an extensive open floor to this dignified suite of offices was accomplished largely by the installation of Harvey Steel Partitions, Desks, Desking, Filing Cabinets, Shelving, etc.

Adaptable to the most modern conceptions of office planning, Harvey Steel Equipment is built to a standard which ensures prolonged trouble-free service.

HARVEY

DESKING • CABINETS • PARTITIONS

Catalogues available on request

G. A. HARVEY & CO. (LONDON) LTD.
WOOLWICH ROAD, LONDON, S.E.7
Telephone: GREenwich 3232 (22 lines).

mr/6

Top illustration shows a flush-mounted model with 13 amp. socket. Underneath is a surface-mounted model with 15 amp. socket.

The new Siemens Ediswan 'Cambridge' cooker control units are being produced in a really comprehensive range to satisfy all possible requirements. In two basic styles, for flush or surface wall mounting, they are available with socket controls for either 13 amp. or 15 amp. circuits (to BSS 1833 and 438). All models can be supplied with pilot lights. The housings are of zinc-coated steel, finished in cream stove enamel, and the front plate of the flush unit is specially adjustable to ensure correct mounting.
Although officially rated at 30 amp., all Cambridge units will carry up to 45 amp. continuously on the cooker circuit as well as supplying the socket outlet.
For full information send for leaflet PD 18/1952.

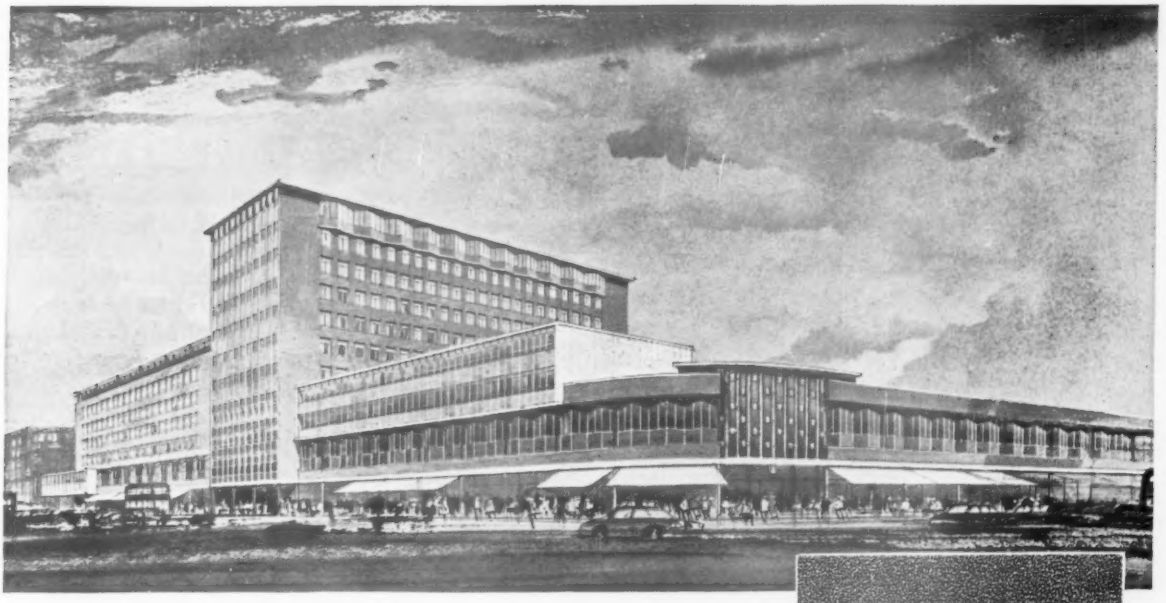
List Prices (inclusive of plug)

Surface or flush-mounting unit with 13 amp. socket control	26s 0d
Surface or flush-mounting unit with 15 amp. socket control	29s 8d
Pilot light for all units, extra	9s 0d

SIEMENS EDISWAN

SIEMENS EDISON SWAN LIMITED *An A.E.I. Company*
PD 18
155 Charing Cross Road, London WC2 *Telephone: Gerrard 8660* *Telegrams: Sieswan Wescent London*

Deadline ? 18 months from the day work began !



So once again, PRESSURE PILING *was chosen*

The ground floor of this magnificent building is made up of 29 shops and showrooms. Office accommodation occupies the upper floors. The main centre block is 11 stories high.

When a project of this size must be completed within 18 months and when piles are required, then the Pressure Piling System is the logical choice. Pressure piles can be cast in situ without vibration, the system can be used even where headroom is only 6 ft., and piles can, if necessary, be sunk in water.

ARCHITECTS: Messrs. Howell and Brooks
CONSULTING ARCHITECTS: T. P. Bennett & Son
CONSULTING ENGINEERS: R. T. James and Partners
QUANTITY SURVEYOR: Gordon A. Harris, A.R.I.C.S.
MAIN CONTRACTORS: Myton Limited

An Architect's impression of NORFOLK HOUSE, CROYDON, built for the Norwich Union Life Insurance Society. The Pressure Piling Co. (Parent) Ltd. handled all the piling that was required for this building.

THE PRESSURE PILING COMPANIES

THE PRESSURE PILING COMPANY (PARENT) LTD
637 Old Kent Road, London, S.E.15. Tel: New Cross 0347/8/9

Enquiries for the North of England, Scotland, Northern Ireland and Eire should be addressed to:—

THE PRESSURE PILING COMPANY (NORTHERN) LTD
Charnley Fold Lane, Bamber Bridge, Nr. Preston. Tel: Preston 85723

Architects and Engineers are invited to write for a free copy of 'The Pressure Piling System'. It gives technical data on piled foundations and underpinning for rapid vibration-less construction and repairs.

THE ORIGINAL AND LARGEST BORED PILING SPECIALISTS IN THE WORLD

Yes!

Specify the BILSTON

ATLANTA

whatever size bath is needed

Whatever size a bathroom is to be, a Bilston Atlanta can be specified. Made in five sizes, the Atlanta has the superior Bilston finish and durability, plus design features that make it particularly safe and comfortable. No matter how large the estate, standard specification of the Bilston Atlanta ensures complete satisfaction The Atlanta has been selected for the Design Centre and costs no more than an ordinary bath.

- Atlanta
- Magna
- Cresta
- Marina
- Mermaid
- Bermuda

ALL THIS WITH THE ATLANTA!

Flat Bottom—the Atlanta flat bottom helps to prevent slipping . . ensures comfort. Particularly suitable where a shower is to be fitted.

Safety—the low sides make the Atlanta safer for young and old. It can be fitted to give an overall height of only 16".

Taps can be fitted centrally, or on either corner to facilitate installation and maintenance.

Fittings—the Atlanta is supplied with or without hand grip. The feet can be adjusted to accommodate all types of trap, including the Bilston "Wasteflo" prefabricated waste trap and overflow unit.
Also available with the Bilston O.P. Hand Grip specially designed to meet the needs of the elderly or infirm.

Colours—the Bilston range includes white, or the exact colour required for any decorative scheme.

BILSTON—the bath *SPECIALISTS*

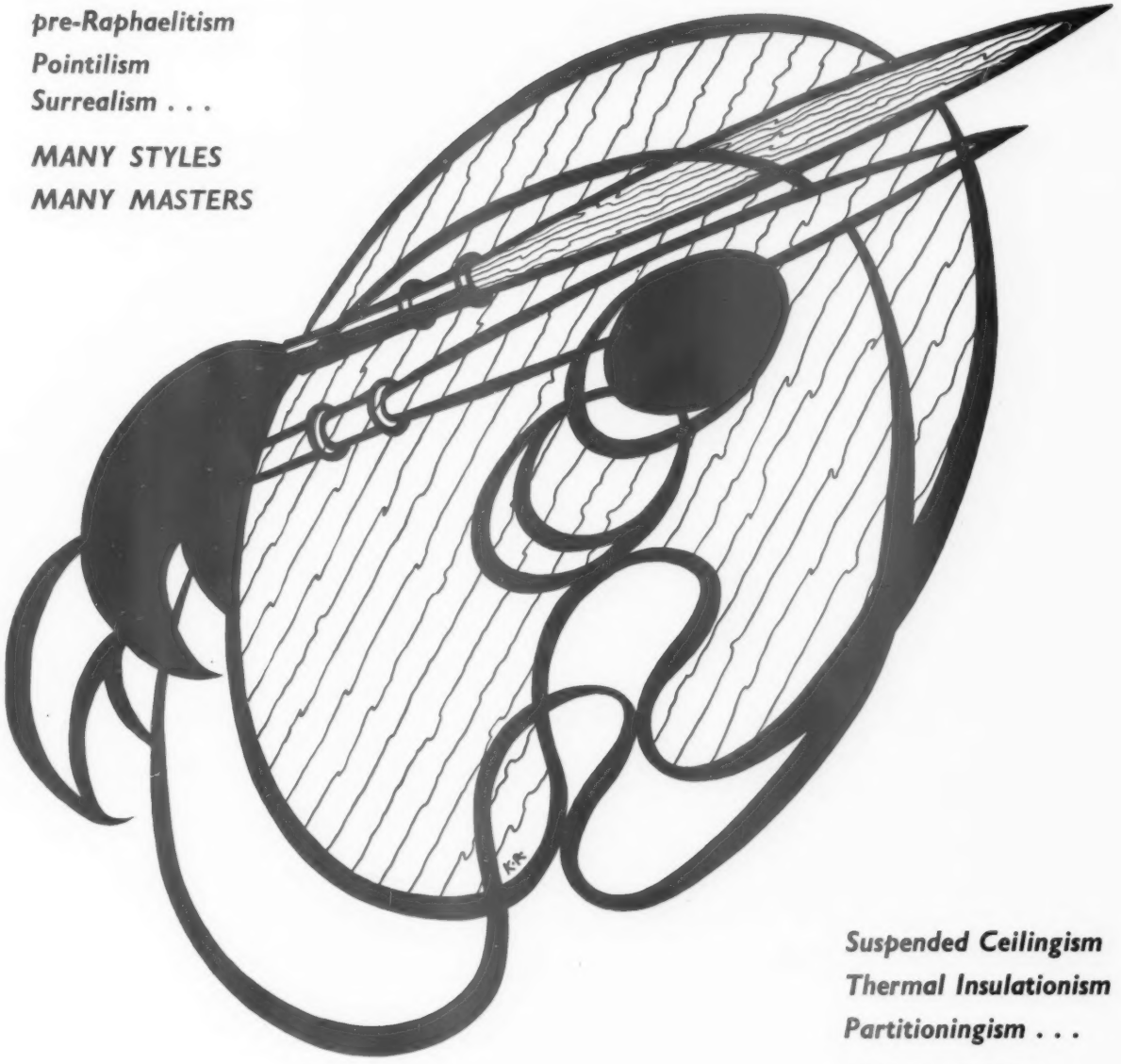
WE HAVE AN EXHIBIT AT THE BUILDING CENTRE 26 STORE STREET WC1

Bilston Foundries Ltd Bilston · Staffordshire · Illustrated literature is available on request

'ISM

Impressionism
Cubism
pre-Raphaelitism
Pointilism
Surrealism . . .

MANY STYLES
MANY MASTERS



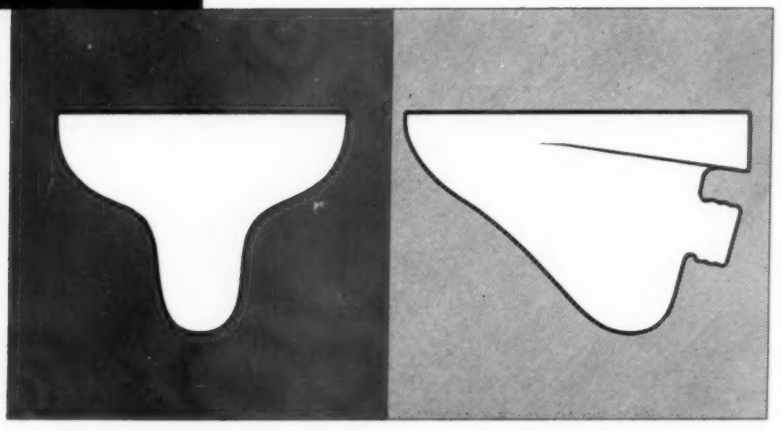
Suspended Ceilingism
Thermal Insulationism
Partitioningism . . .

MANY STYLES
ONE MASTER . . .

ANDERSON CONSTRUCTION COMPANY LIMITED

Clifton House · Euston Road · London N.W.1. · EUS 7465

design



material

The Standard Sanwall closet—wall-hung to facilitate floor cleaning—is a refreshingly simple design. Beneath its glazed exterior is Standard vitreous china, a non-porous material. Even without its glaze it is non-absorbent. No moisture can enter the body material and swell it, making a 'mosaic' of the glaze and so letting in more moisture. Standard vitreous china is a clean material. It is strong, too, and highly resistant to breakage. For fine design in a really clean and durable material, always specify Standard vitreous china.

vitreous china by **Standard**

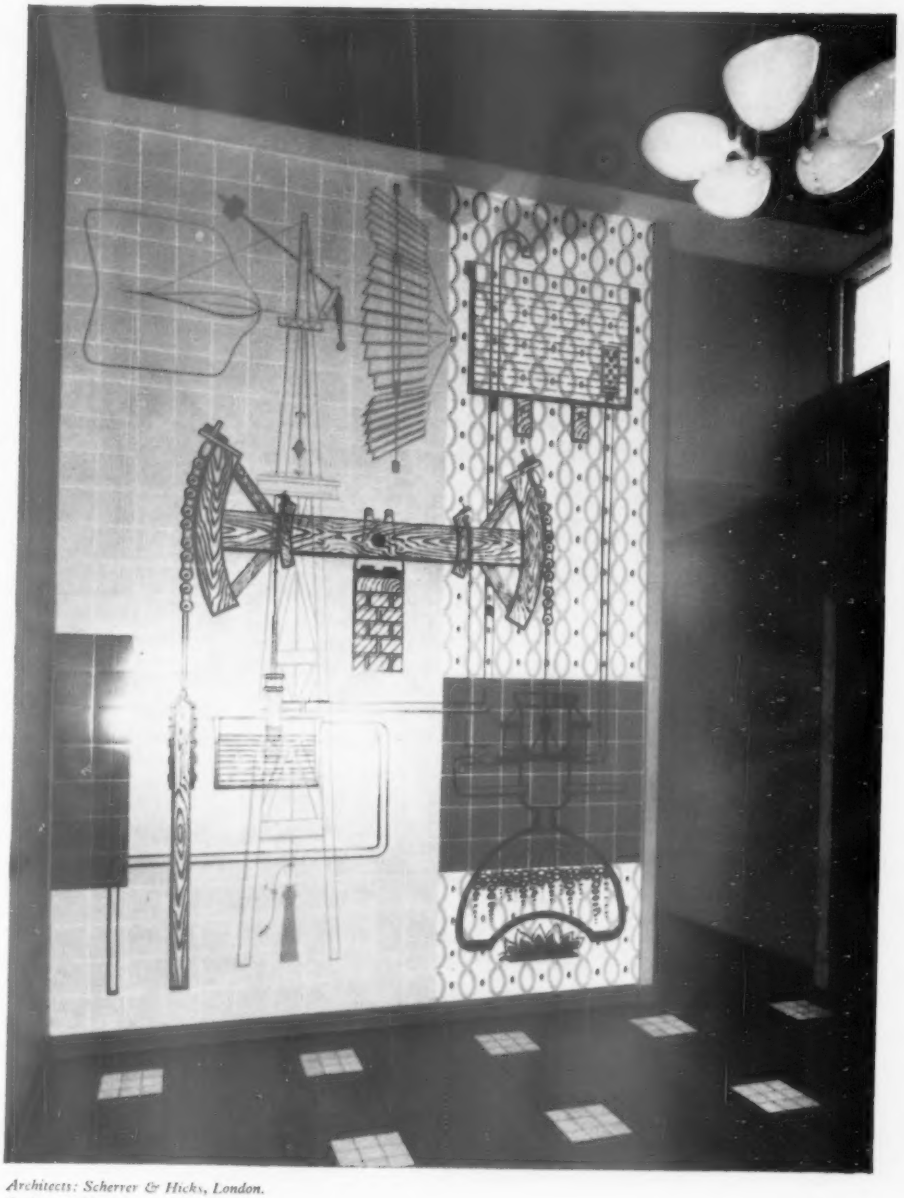
442

MANUFACTURED BY IDEAL BOILERS & RADIATORS LIMITED · IDEAL WORKS · HULL

HERTS & ESSEX WATER COMPANY

choose Ceramic Tiles

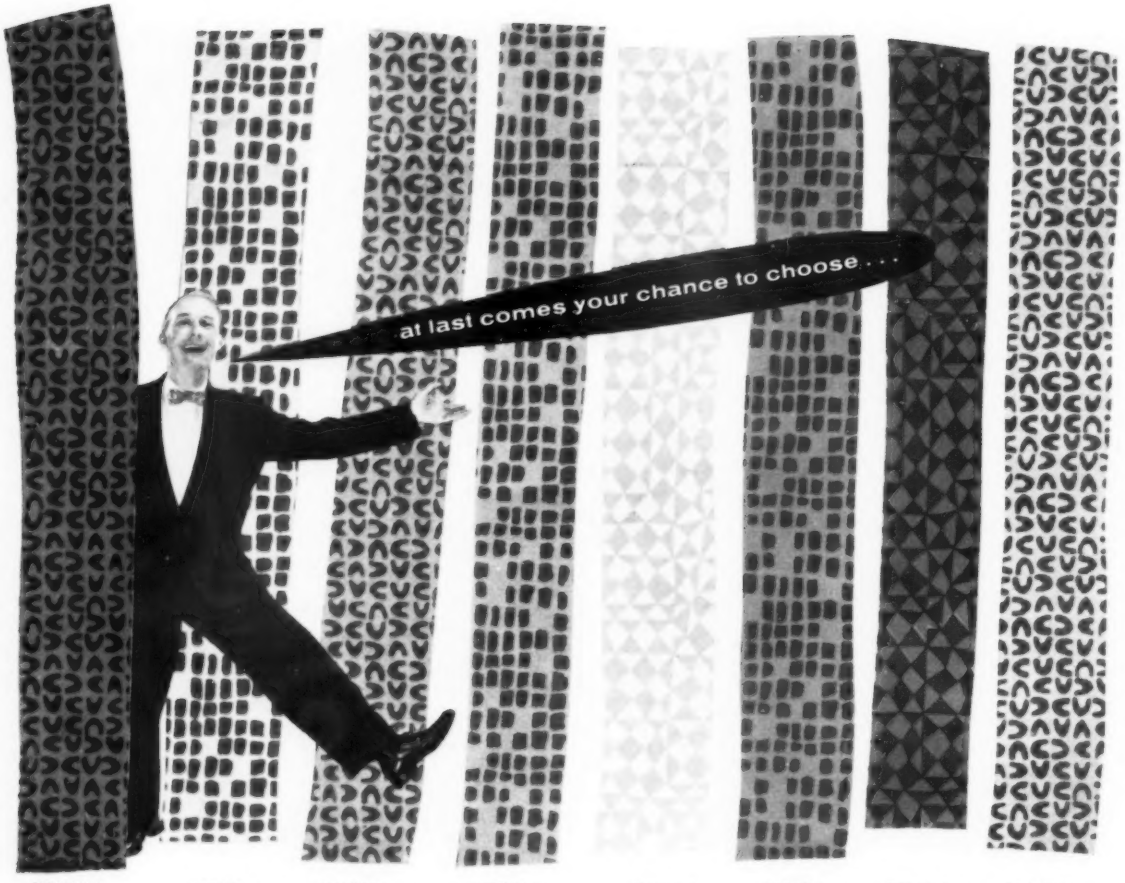
. . . for Wall and Floor surfaces in the Entrance Hall to their Pumping House at Harlow. The effective Wall Mural in 6″ Tiles, symbolises an old pumping technique. 3″ Tiles form the colourful floor. Yet another example of how Ceramic Tiles combine dignified visual appeal with the maximum hygiene and lasting surface beauty.



Architects: Scherrer & Hicks, London.
Designer : Kenneth Barden, A.R.C.A.
Tiling Contractors: Carter & Co. (London) Ltd.

British
Ceramic TILES

Glazed & Floor Tile Manufacturers' Association · Federation House · Stoke-on-Trent



ROMANY 1. MOSAIC 1. ROMANY 3. MOSAIC 5. PIAZZA 1. MOSAIC 4. PIAZZA 2. ROMANY 5.

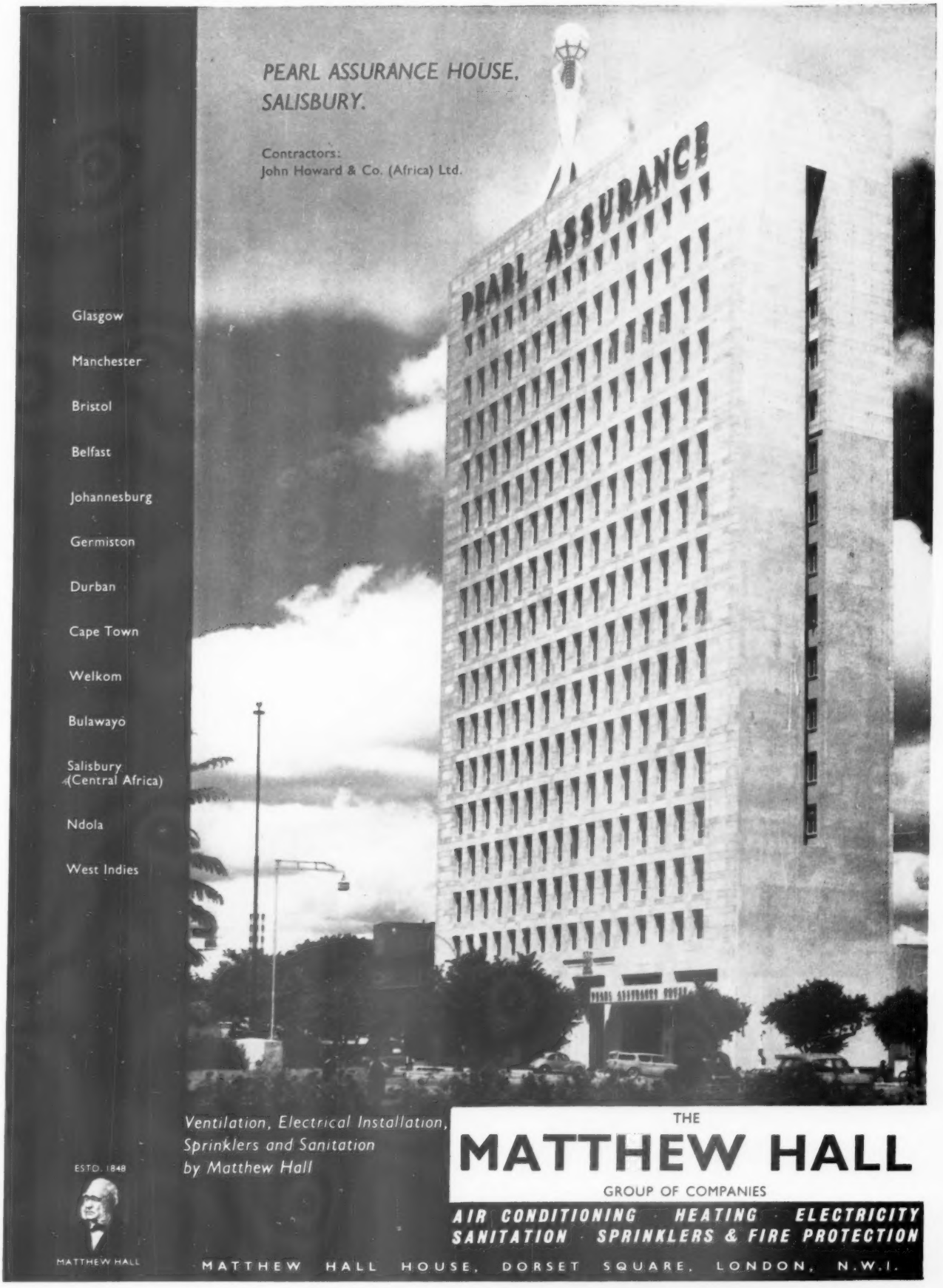
everflex designs in wide variety

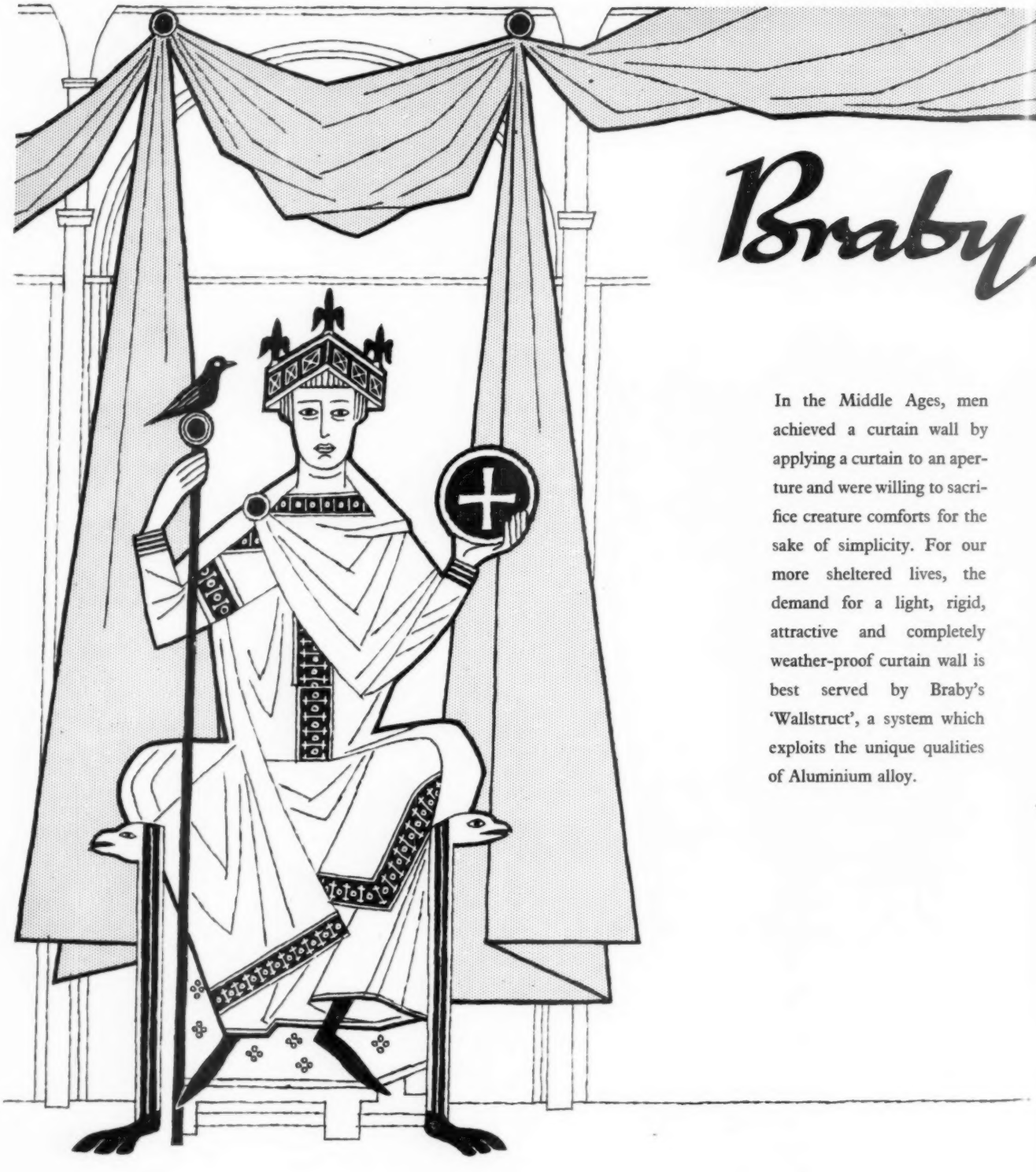
Nowadays, design is as important as quality, and in everflex vinyl coated fabrics, the two are successfully combined. The numerous designs, exciting colours, and the genuine advantages of everflex, make it the ideal upholstery material for the designer and the manufacturer. The everflex design 'Piazza' has been selected as one of the Designs of the Year by the Council of Industrial Design. The others shown here have been selected for display in the Design Centre. Everflex is washable, fadeless, hard-wearing, tough and easy to work. All these points have ensured BSI acceptance of everflex. Write for samples today.

Fabrics designed by Edward Pond Des. R.C.A.
Chair designed by Ronald Carter Des. R.C.A.

everflex VINYL COATED FABRICS

Bernard Wardle (everflex) Ltd.,
Caernarvon, North Wales. Telephone: Caernarvon 3243
London Showrooms: Maidstone House, 25 Berners St., W.1. Telephone: Langham 8451
Manchester Office: 53 Spring Gardens, Manchester 2. Telephone: Central 0584


PEARL ASSURANCE HOUSE,
SALISBURY.
Contractors:
John Howard & Co. (Africa) Ltd.
PEARL ASSURANCE
Glasgow
Manchester
Bristol
Belfast
Johannesburg
Germiston
Durban
Cape Town
Welkom
Bulawayo
Salisbury
(Central Africa)
Ndola
West Indies
Ventilation, Electrical Installation,
Sprinklers and Sanitation
by Matthew Hall
ESTD. 1848
MATTHEW HALL
THE
MATTHEW HALL
GROUP OF COMPANIES
AIR CONDITIONING · HEATING · ELECTRICITY
SANITATION · SPRINKLERS & FIRE PROTECTION
MATTHEW HALL HOUSE, DORSET SQUARE, LONDON, N.W.1.



Braby

In the Middle Ages, men achieved a curtain wall by applying a curtain to an aperture and were willing to sacrifice creature comforts for the sake of simplicity. For our more sheltered lives, the demand for a light, rigid, attractive and completely weather-proof curtain wall is best served by Braby's 'Wallstruct', a system which exploits the unique qualities of Aluminium alloy.

FREDERICK Braby AND COMPANY LIMITED

LONDON: 352-364 Euston Road, London, N.W.1 Telephone: EUSton 3456

Also at GRAYFORD, LIVERPOOL.

WALLSTRUCT

CURTAIN WALLING

A CURTAIN WALLING IN ALUMINIUM ALLOY

'Wallstruct' was used on this building, erected for the Queensway Store Co. Ltd. at Crawley New Town, Sussex.
Consultant Designer: Gaby Schreiber, F.S.I.A.
Chief Architect: R. G. Thomson, Dip. Arch., A.R.I.B.A.
Architect-in-charge: D. D. Glennie, B. Arch., A.R.I.B.A.
Contractors: Welwyn Builders Ltd.

Glazing Braby 'Improved Eseglaze' system of aluminium beading. All thicknesses of glass and most double-glazed panes can be fitted.

Dado panels Double, with glass wool or other insulant. External panel (coloured glass, plastic, aluminium, etc.) may be fitted from outside.

Openings All types can be accommodated, including latest Braby sliding sash.

Sizes Standard construction: not exceeding 4 ft. 6 in. wide by 10 ft. 6 in. high to customers' requirements. Above these limits reinforcing members are necessary.

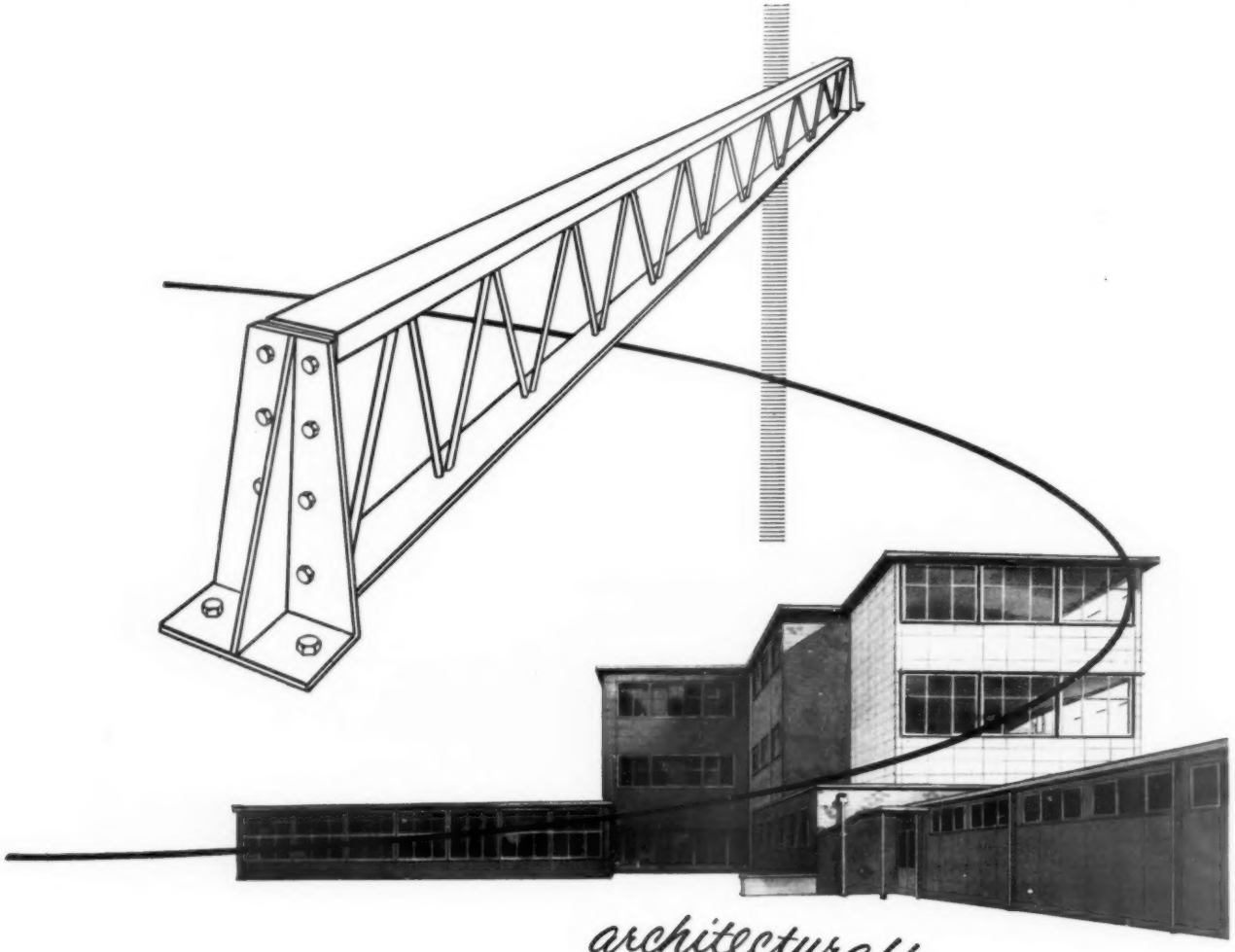
Braby 'Wallstruct' has been designed to make full use of the high strength/weight ratio, excellent weathering qualities and pleasing appearance of aluminium alloy.
'Wallstruct' consists of individually sized units made up from extruded aluminium alloy sections* assembled into frames of 4 in.-deep channel section. Expansion and contracting movements are taken care of by expansion mullions and, fixed to each floor, transom sections.
* Supplied on natural (mill) finish, or polished, anodised and sealed.

Write for WALLSTRUCT leaflet

GLASGOW: Eclipse Works, Petershill Road, Glasgow, N. Telephone: Springburn 5151

BRISTOL, BELFAST, PLYMOUTH *and* FALKIRK

AP 158



architecturally

STRUCTURALLY RIGID

flexible

Hills Presweld Beams are supplied for use in conjunction with all types of load-bearing brickwork. Immensely strong, but light, they are available in span multiples of 3′ 4″ and 8′ 3″. Alternatively, they can be made to your requirements, thus offering absolute architectural freedom. Beams are normally supplied complete with end adaptor shoe (as illustrated) or the top boom can be extended to form a seating on the brickwork. We shall be pleased to send full information on request.

HILLS

Presweld

REGD TRADE MARK

BEAMS

HILLS (WEST BROMWICH) LIMITED
ALBION ROAD, WEST BROMWICH, STAFFS.
Telephone: West Bromwich 1811 (15 lines)

London: Chapone Place, Dean Street, W.1
Telephone: GERrard 0526/9
Branches at: Manchester (Blackfriars 3382/3), Bristol (24765)
Newcastle-on-Tyne (25060), Glasgow (City 5564)

PB1

MAGNET FOR THE OUTSIDE WHERE PAINT MUST DO MORE THAN DECORATE

FOLLOW THE MAGNET MAINTENANCE PLAN FOR LASTING PROPERTY PROTECTION

The Magnet Maintenance Plan provides the maximum protection for 5, 8 and 10 year periods, for the outside of property in town, suburb and country. Adherence to the Plan builds up a protective film of Lead Paint which prevents serious deterioration if later re-painting is delayed.

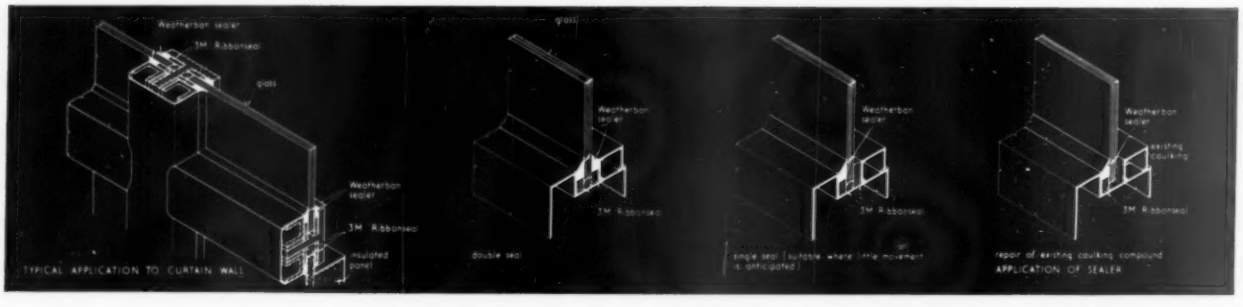
ASSOCIATED LEAD MANUFACTURERS LIMITED

CLEMENTS HOUSE, 14 GRESHAM STREET, LONDON, E.C.2.
CRESCENT HOUSE, NEWCASTLE-UPON-TYNE.
LEAD WORKS LANE, CHESTER.

Time and exposure have **proved** that

WEATHERBAN
BRAND

is a perfect and lasting **sealer** -particularly for curtain walling



WEATHERBAN is one of the range of 3M adhesives and sealers for the building industry

WEATHERBAN is a two-part sealer specially compounded by 3M. After the addition of an accelerator it cures in situ and develops its permanent qualities, tenacious adhesion and high degree of elasticity making WEATHERBAN an effective and permanent weatherproof seal.

Weather Resistance: WEATHERBAN: has excellent resistance to ultra violet light, oxidation, solar heat and extreme climatic conditions. Service temperature -65° to 180° F.

Adhesion: WEATHERBAN possesses excellent adhesion to aluminium, glass, as well as other monolithic surfaces and unpainted wood. Typical tensile strength figures are 210 p.s.i. for colour black.

Flexibility: WEATHERBAN will stretch to over 300% and recover when stress is relieved.

Non-Shrinking: WEATHERBAN being approximately 100% solids, seals without shrinkage - containing no oils to evaporate.

Pleasing Colours: WEATHERBAN blends with buildings since it is available in standard colours - black, aluminium and tan. Other colours are obtainable.

3M APPROVED CONTRACTOR SERVICE *is available for the application of Weatherban where required. Copies of the full specification for the sealing of curtain wall structures can be obtained from 3M.*

PRODUCT OF 3M COMPANY RESEARCH

Made by MINNESOTA MINING & MANUFACTURING CO LTD • 3M House • Wigmore Street • London W1 • Hunter 5522

ALSO AT BIRMINGHAM EAST 2051 · MANCHESTER CENTRAL 1351 · GLASGOW CITY 6704

TBW/AD82

7 GOOD REASONS WHY YOU SHOULD CHOOSE A WANDSWORTH INCINERATOR

1 All Wandsworth incinerators have that incomparable exclusive feature—a built-in fan. Fume free combustion is assured.

2 Operation is automatic—insert the articles for disposal and walk away. The timing device will do the rest.

3 Adjustable timing—to suit any particular need—at the turn of a screw.

4 Easy installation. A power socket and a flue outlet—it's all so easy.

5 Big capacity. From the "Bunnie" to the "Warden" Wandsworth incinerators cope just that much better.

6 Long service life. Streamlined design and rugged components reduce maintenance to a simple minimum.

7 Common flue arrangements. Combination of the special Wandsworth feature—the built-in fan—and a simple relay system, ensures that fumes cannot escape through idle machines. Immediately one machine is used fans throughout the whole installation operate.

THE WANDSWORTH WARDEN (above) SOLVES A MAJOR PROBLEM—
the BULK and centralised disposal of surgical and maternity dressings, sanitary towels, documents, cardboard and other combustible materials. Foot bar opens access door and commences burning cycle—leaving both hands free. Consumption 3 kW. Please ask for copy of Burning Test Report giving detailed performance figures.
THE FAMOUS WANDSWORTH BUNNIE,
shown below, is available for surface, flush or pedestal mounting.

SURFACE BUNNIE
Clean, hygienic, efficient, the Bunnie is suitable for factories, offices, hotels, restaurants, public toilets, hospitals, nurses' homes, etc. Models for A.C. or D.C. mains, consumption 800 watts. Capacity: female staff of 100-150.

FLUSH BUNNIE
Technically similar to the Surface Bunnie, the Flush Model saves space and is extremely neat where there is provision for ducting in the walls. Depth of only 9¼ inches enables it to be fitted almost anywhere, particularly new buildings.

Literature gladly sent on request.

Wandsworth

ELECTRICAL MANUFACTURING CO. LTD.
Albert Drive, Sheerwater, Woking. Tel: Woking 3506

Sir Christopher

would have
been keen on

KEE KLAMPS

Registered Trade Mark

The inventive mind of the great architect of St. Pauls produced an individual solution to the problem of supporting the great Dome on a weight-carrying brick cone. So today, Kee Klamps, the product of inventive minds at Reading, extend the possibilities of construction in an entirely original and up-to-date way. Yes, Wren would have found a use for Kee Klamps.

Kee Klamp Engineers, qualified to advise, are freely available to discuss applications of this system.

GEO. H. GASCOIGNE CO. LTD.,
579 GASCOIGNE HOUSE, READING, BERKS
Telephone READING 54417 (3 lines)

IDEAL MIPOLAM

(British Pat. 779278)

STEEL CORED PLASTIC WINDOWS

Mipolam Plastic Windows were installed in these modern flats, achieving unprecedented economy in maintenance and fuel conservation. Effective sound insulation. They are available in eleven lightfast colours and are not affected by atmospheric or corrosive attack.

1. *Double glazing, incorporating special glazing compounds with 'lifelong' life.*
2. *Aluminium grid filled with moisture absorbent compound.*
3. *Plastic glazing beads.*
4. *Ideal Mipolam plastic profiles with integral anti-draught fins.*
5. *Electrically welded hollow steel core sections.*

IDEAL MIPOLAM
a product of one of Britain's Largest Manufacturers of Metal Windows

IDEAL CASEMENTS (READING) LTD
READING Telephone 63211 (10 lines)

London Office: 2-4a King Street, St. James, London, S.W.1. Tel.: Trafalgar 3321 Bristol Office: 3 King Square, Bristol 2. Tel.: 27657

Canterbury Cathedral

Architectural Heritage . . .

In a Modern World . . . . today, buildings are erected speedily, and the desire for high quality flooring continues to be in greater demand. **GRANWOOD** meets the challenge. Granwood is fire and damp resisting, and is now available in ten colours. It is proof against dry rot, vermin and insects. It does not expand or contract and is eminently suitable for electric and other forms of under floor warming.

GRANWOOD FLOORING CO LTD

RIDDINGS · DERBY *Telephone:* Leabrooks 341/2/3 *Telegrams:* Granflor, Alfreton

London Office: BATTLEBRIDGE HOUSE, 87/95 TOOLEY STREET, LONDON, S.E.1. *Tel.:* HOP 2929

Perfect harmony in colour schemes is a simple matter when these three fine products are specified: Hadrian paints, Synflat P.V.A. emulsion paint and Ashley wallpapers. They're specially produced in matching shades for successful decoration. Hadrian Paint is available in Gloss, Eggshell, Flat Oil or Water Paint

THE ASTRAL SCHEME

BALCONY

Ceiling and walls- Ashley Wallpaper 2237
Doors - - - Lemon Hadrian
Woodwork - - White Hadrian

GROUND FLOOR

Walls - - - Ashley Wallpaper 6424
Ceiling and walls- Caen Stone Synflat
Doors - - - Forget-me-not Hadrian
Woodwork - - White Hadrain

SMITH & WALTON LIMITED HALTWHISTLE • NORTHUMBERLAND 52

THERMALITE – The first name in loadbearing insulation **is now readily available**

Despite the heavy current demand for this top quality insulating building block, the greatly increased output of the new Thermalite production unit at Birmingham is ensuring rapid delivery.

SOME FACTS ABOUT THERMALITE

Aerated concrete is a material originally developed in Scandinavia where it has been widely used for many years.
Since the development of Thermalite (the British counterpart) in this country eight years ago it has achieved a first class reputation and has been repeatedly specified for domestic and industrial buildings of all kinds. Thermalite is loadbearing, non-combustible, stable yet light and easily worked. It has an extremely low "U" value.

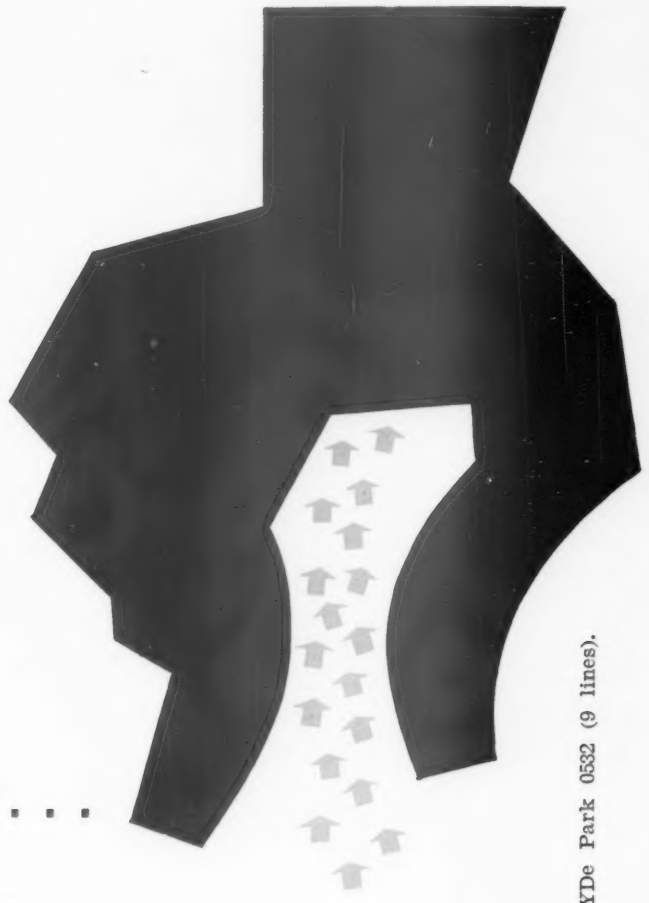
Full technical details are available here
You are invited to write for a copy.

THERMALITE

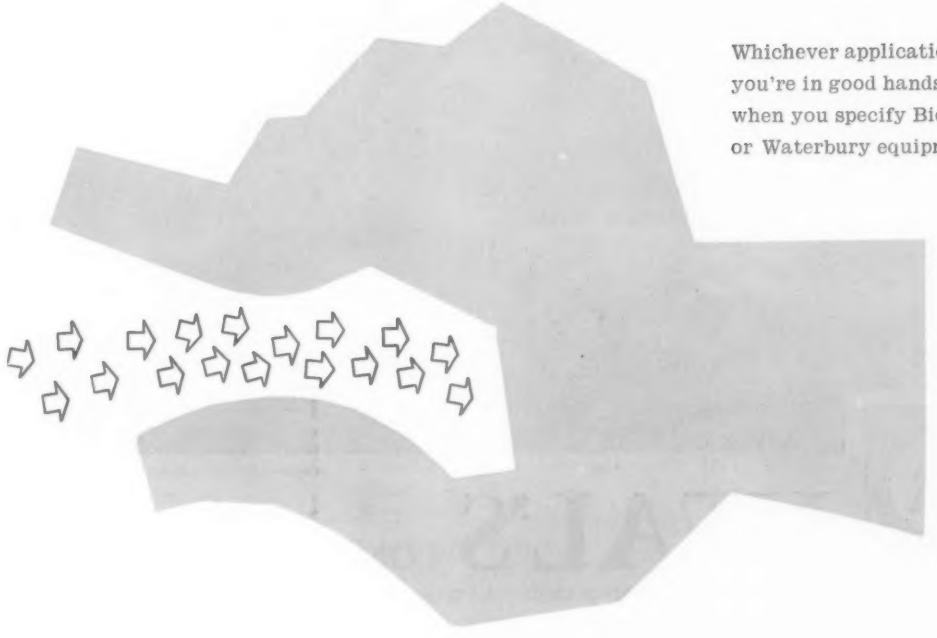
The first name in loadbearing insulation

THERMALITE YTONG LTD.,
Hams Hall, Lea Marston,
Sutton Coldfield, Warwickshire
Telephone: Coleshill 2081 A LAING COMPANY

Early Delivery from Midland and Southern Factories.



Convection or Warm Air . . .



Whichever application, you're in good hands when you specify Biddle or Waterbury equipment.

16, Upper Grosvenor Street, London, W.1. Telephone: HYDe Park 0532 (9 lines).

F. H. BIDDLE LIMITED | WATERBURY LIMITED

Heal's Contracts bring your ideas into focus

Managing Director's Office, Siemens, Edison, Swan Ltd.

HEAL'S CONTRACTS LTD

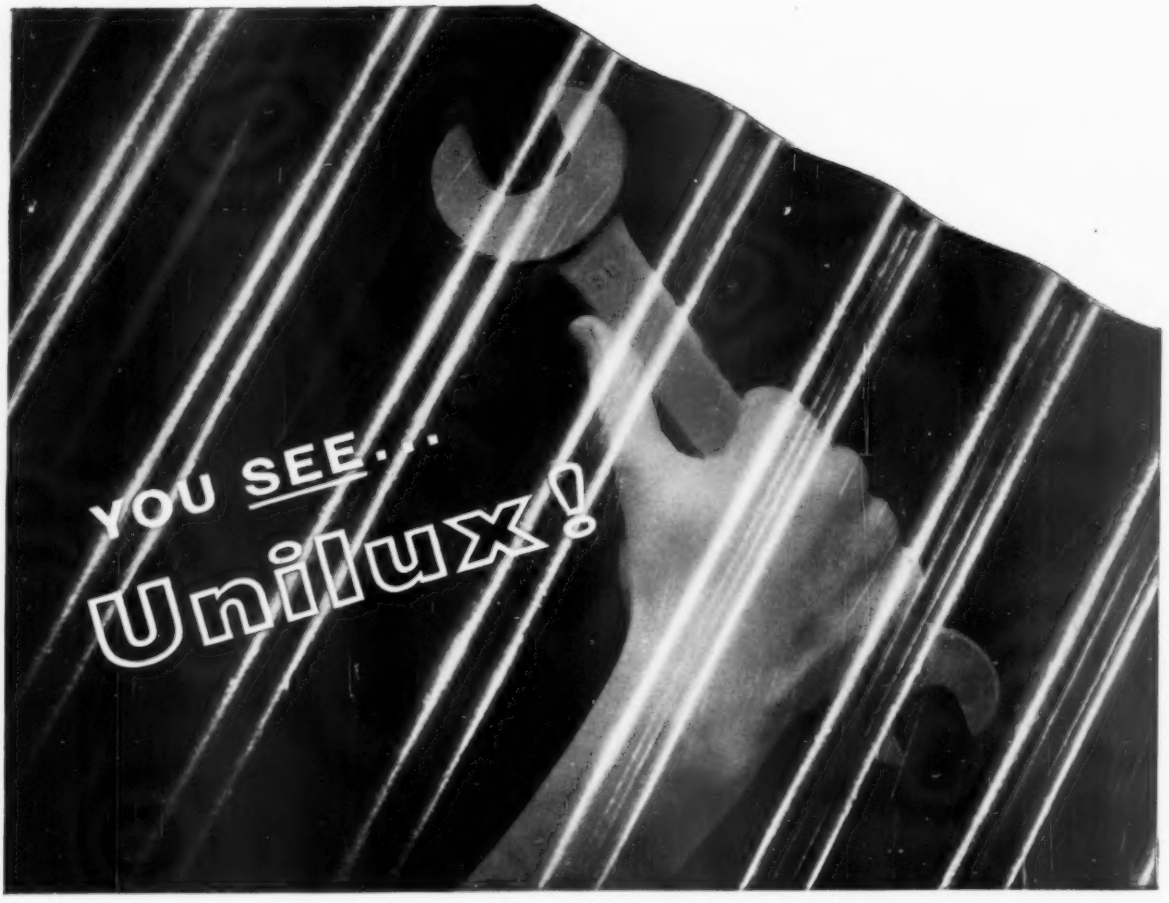
196 TOTTENHAM COURT ROAD, LONDON W.1 TELEPHONE: MUSEUM 1666

Write for our new booklet 'More Interiors' illustrating some of the work we have carried out for such well-known organisations as:

BROOKE BOND AND CO LTD · LIVERPOOL DAILY POST AND ECHO LTD · ALLIANCE ASSURANCE CO LTD · REED PAPER GROUP DANISH BACON COMPANY LTD · HALIFAX BUILDING SOCIETY · CANADIAN PACIFIC STEAMSHIPS LTD · THE BOWATER PAPER CORPORATION LTD · IMPERIAL CHEMICAL INDUSTRIES LTD · TRADES UNION CONGRESS · BARCLAYS BANK LTD IND COOPE AND ALLSOPP LTD · BRITISH TRANSPORT COMMISSION · U.S.A.F. · JACQMAR LTD · LONDON AIRPORT

Not only do hand made tiles by Colthurst Symons offer the architect great scope for creative achievement, but their low maintenance cost will pay tribute to his practical sense of values
PANTILES No. 6: The natura rough texture gives an individual character
Size 13⅞" x 9¾", 1,000 tiles cover 70 square yards (approx)

COLTHURST SYMONS & CO LTD BRIDGWATER SOMERSET

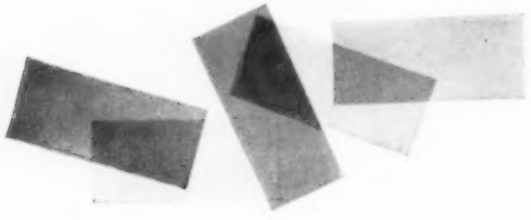


In factories, offices and farms the *light* you see comes at its best through UNILUX corrugated translucent roof sheeting. Made from polyester resins and glass fibre to give strength and rigidity, UNILUX is produced in natural and many attractive colours, in an increasing number of different profiles, as many as 23, with more to come.

UNILUX—the perfect machine produced sheeting—is shatter-proof, weather-proof, easy to fix and economical. It requires no maintenance after fixing.

The Fire Retardant Grade which has been accepted by Government and Local Authorities is ideal for buildings where fire hazards exist.

In fact, UNILUX is the *modern* answer to roof lighting problems in all applications. Write for details.



Unilux
TRANSLUCENT ROOF SHEETING

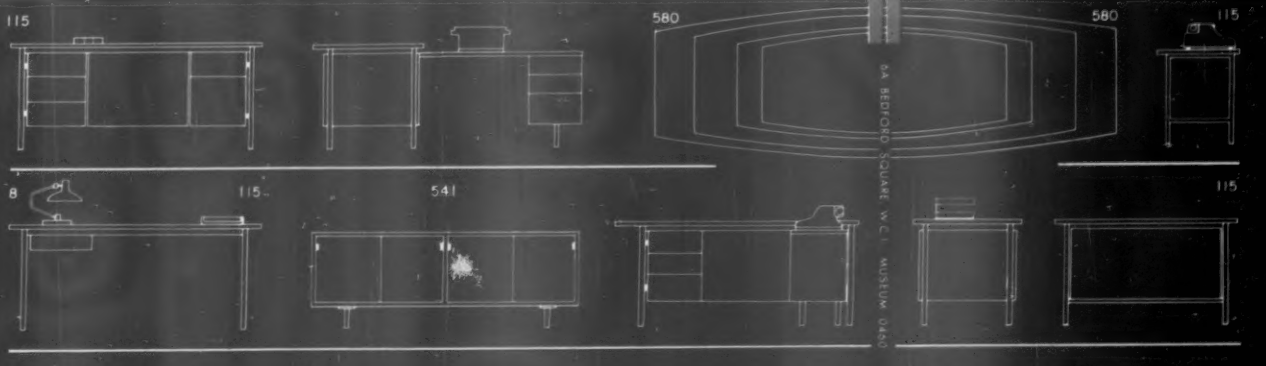
U.A.M. PLASTICS LTD · TOLPITS · WATFORD · HERTFORDSHIRE

A MEMBER OF THE U A M GROUP OF COMPANIES

Our Planning Unit provides a comprehensive service to Architects and Clients. International facilities available on request.

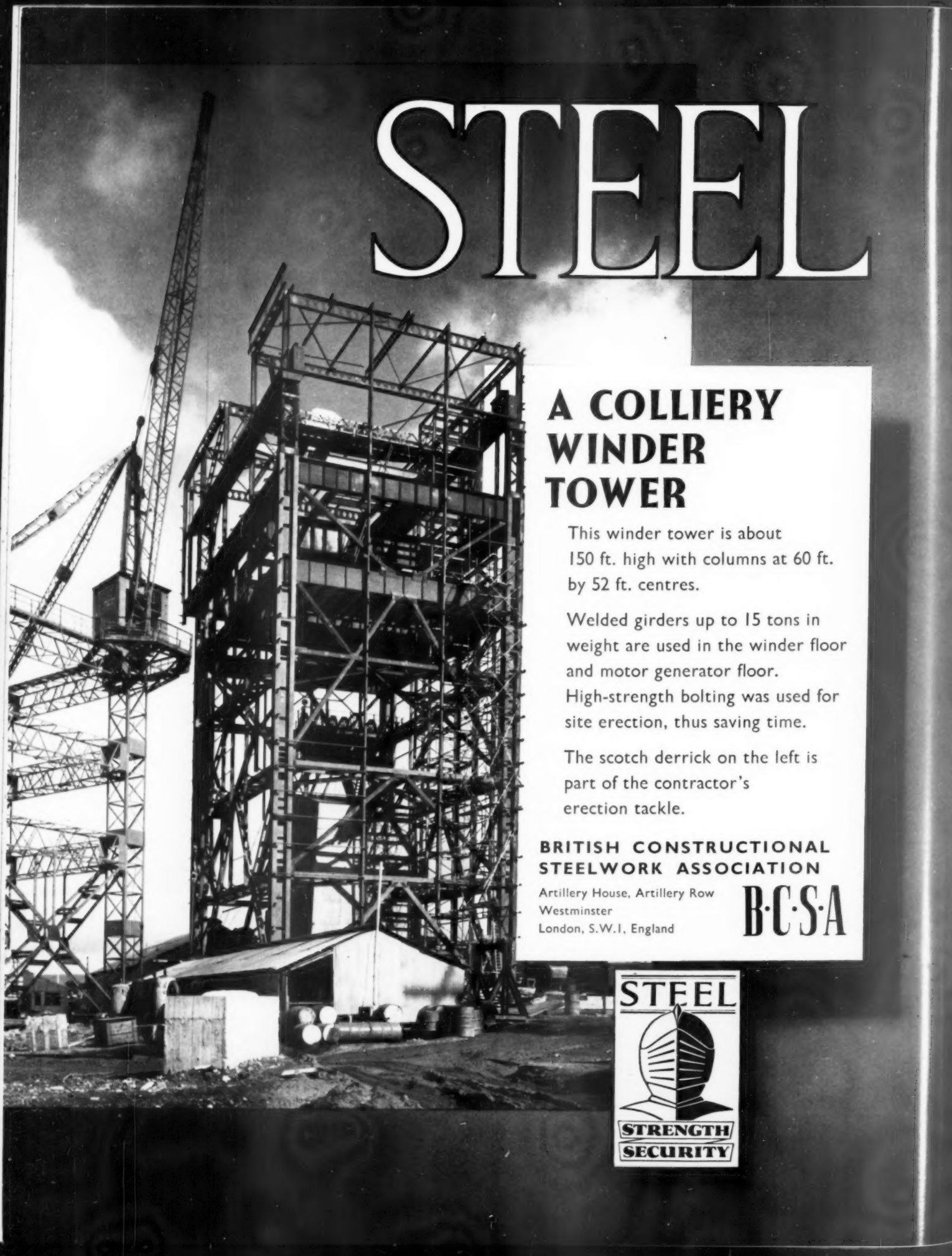
MAY WE SEND YOU AN ILLUSTRATED BROCHURE?

KNOLL INTERNATIONAL LTD.*



*INCORPORATED WITH LIMITED LIABILITY UNDER THE LAWS OF THE STATE OF DELAWARE, U.S.A.

9A BEDFORD SQUARE W.C.1. MUSEUM 0460



A COLLIERY WINDER TOWER

This winder tower is about 150 ft. high with columns at 60 ft. by 52 ft. centres.

Welded girders up to 15 tons in weight are used in the winder floor and motor generator floor. High-strength bolting was used for site erection, thus saving time.

The scotch derrick on the left is part of the contractor's erection tackle.

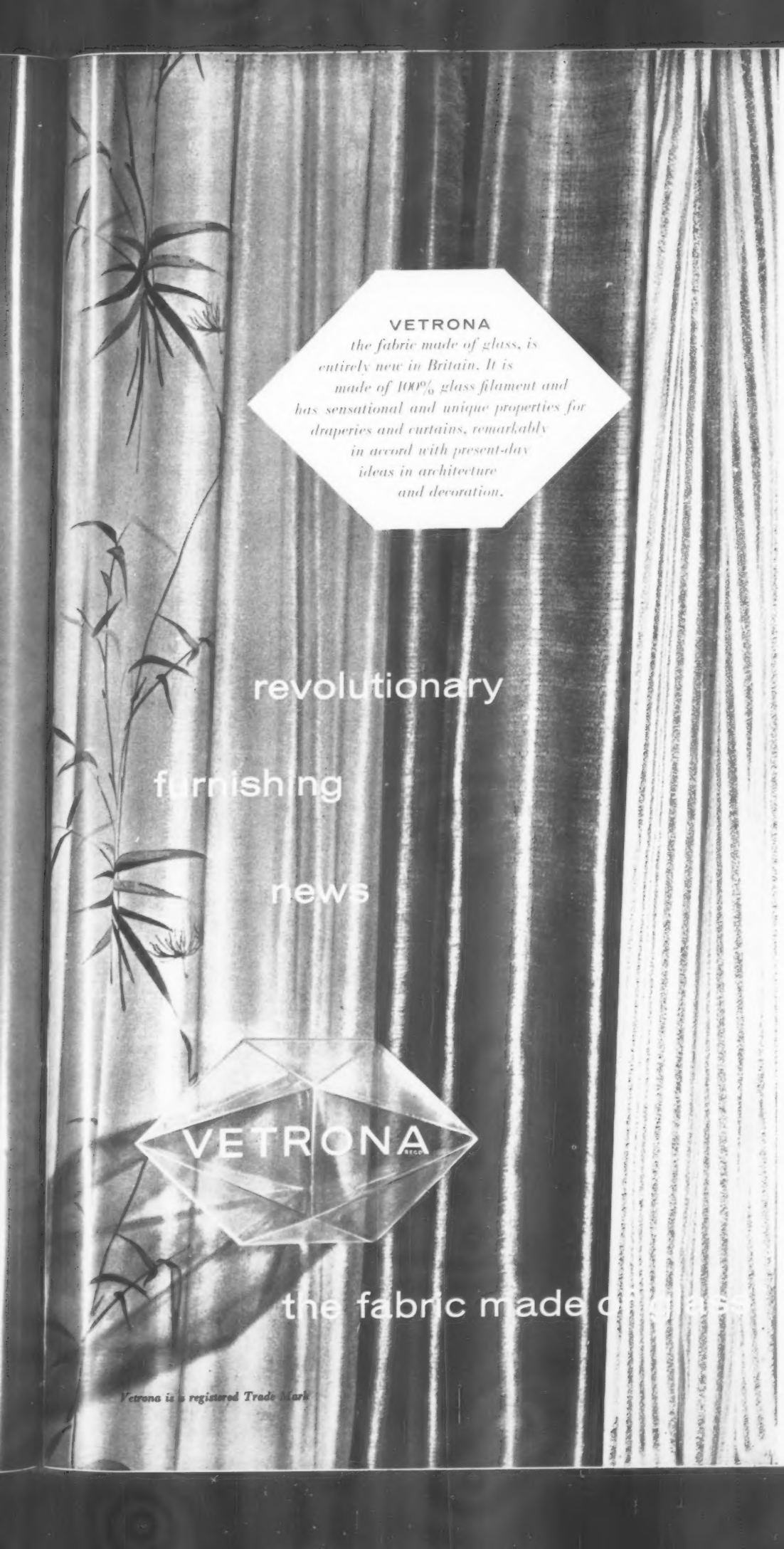
BRITISH CONSTRUCTIONAL STEELWORK ASSOCIATION

Artillery House, Artillery Row
Westminster
London, S.W.1, England

B·C·S·A

STEEL

STRENGTH
SECURITY


VETRONA
the fabric made of glass, is entirely new in Britain. It is made of 100% glass filament and has sensational and unique properties for draperies and curtains, remarkably in accord with present-day ideas in architecture and decoration.
revolutionary
furnishing
news
VETRONA
REGD.
the fabric made

Vetrona is a registered Trade Mark

VETRONA
has long life!

It won't rot, shrink, sag, stretch, fade, or run. Neither mould, moth, salt air, sun, bacteria, nor atmospheric degradation will harm it.

VETRONA
is easy to keep clean!

It can't absorb dirt any more than a crystal can, so needs little cleaning. Wash lightly in soap-suds or detergent, rinse, and hang up. It dries in minutes with no creases, is never ironed.

VETRONA is fireproof!

It is permanently non-combustible. There is no need for periodic flame-proofing.

VETRONA is translucent!

It filters and reflects light, giving unique translucency without loss of warmth or privacy, needs no lining.

VETRONA is varied!

It is made in marquisettes, textured satin-like plains in many colours, and brilliantly designed prints.

VETRONA
has great advantages!

For contract furnishings – schools, hotels, clubs, hospitals, theatres, ships, aeroplanes, exhibitions, Vetrona has unique new qualities. Specially created designs can also be made for a minimum length of 200 yards.

We invite inquiries :-
Vetrona Fabrics Limited
90 Great Bridgewater St.
Manchester 1

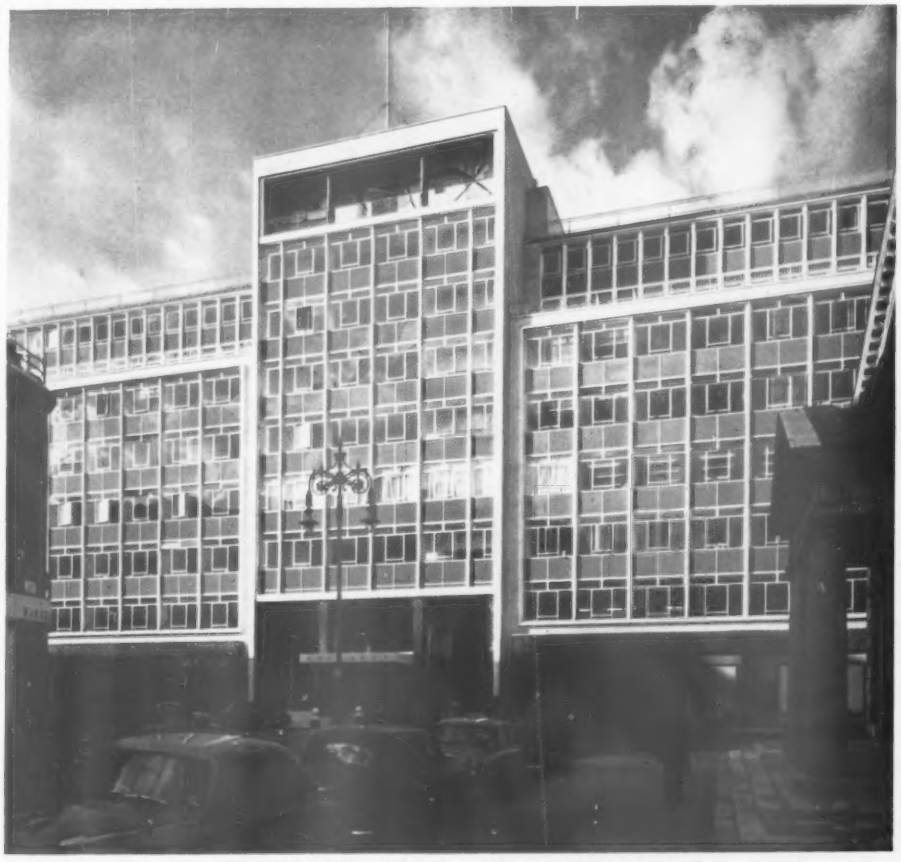
Robin Day has designed
and Hille are producing
the remarkable and inexpensive
new 'Status' series
of office desks, tables
and storage units

Working tops, frames and cabinets in many sizes are capable of countless arrangements to fit space and function. All are as well made as their fine appearance suggests.
Walnut, mahogany and teak are the timbers; tops can be wood or heat and stain-proof melamine, lipped with hard-wood. Metal frames and fittings — black or silver finished. The workmanship is uniformly excellent and the value, as inspection will prove, is extraordinary. See this new 'Status' range now.

hille

CONTRACT DIVISION
internationally-honoured furniture for homes and offices

visit our showrooms : 39/40 Albemarle Street, London W.1 and 24 Albert Street, Birmingham 4 or write for leaflets and we will say where you may see Hille furniture.



DEBENHAMS PROPERTIES LTD., Henrietta House, Henrietta Place, London, W.1
J. S. Gibson, Gordon & Montagu, Chartered Architects

HOPE'S
WINDOW WALL
in hot-dip galvanized steel

HENRY HOPE & SONS LTD., *Birmingham & 17 Berners Street, London, W.1*
MEMBER OF THE METAL WINDOW ASSOCIATION

the **top ten** reasons for roofing with SNAPDEK

Both photographs are reproduced by courtesy of Birfield Tools Ltd., Coventry.
Architects: S. J. Oldham & Partners, Coventry.
Steelwork: Boulton and Paul Ltd.
Contractors: Rudders and Paynes Limited.

1 IT PROVIDES THOROUGH INSULATION—decreasing fuel consumption.

2 IT IS FIRE PROOF—there is nothing combustible in its construction.

3 IT IS DURABLE—designed to withstand all weather conditions, indefinitely.

4 IT IS ADAPTABLE—can be used for any type of roof, and also as a vertical cladding, on any kind of building.

5 IT IS LIGHT IN WEIGHT—only 14½ lb. per square yard.

6 IT IS STRONG AND SAFE—in accordance with B.S. C.P.3. (1952).

7 IT IS LEAK-PROOF—no exposed bolt holes or fixings.

8 IT IS SIMPLE TO FIX—saving time and labour.

9 IT IS CLEAN AND GOOD-LOOKING—the attractive stucco pattern also reduces glare.

10 IT COSTS LESS THAN ANY COMPARABLE ROOF DECKING.

SPECIFY

SNAPDEK

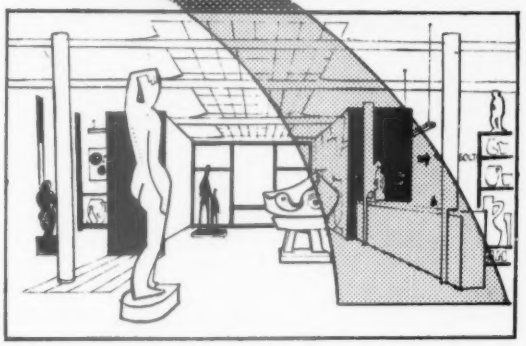
Regd. Trade Mark Prov. PATENTS Nos. 32555, 36279

THE MODERN INSULATED ALUMINIUM ROOF DECKING

Further technical information may be obtained from:—

SNAPDEK LIMITED, CHESTER STREET, ASTON, BIRMINGHAM 6
Phone No. ASTON CROSS 4804 and 4805

"SNAPDEK" IS AN ADAPTATION OF "SNAPRIB"

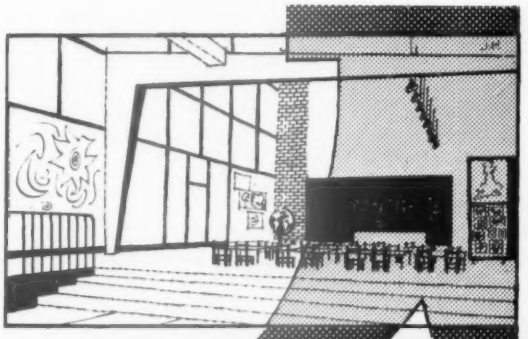


it's new

a truly

FLAT

finish



GAYMEL FLAT ENAMEL

Imagine a coating of softly luminous colour, as evenly matt as sprayed distemper, yet more durable than the most solid flat oil finish. This is the paint Gay's set out to formulate many years ago, and now present as GAYMEL FLAT ENAMEL.
The quality of decoration attained with this enamel is superb, and so is the speed and certainty with which faultless results are obtained —every time.

- DRIES PERFECTLY MATT
- EASILY APPLIED
- EASY TO JOIN UP FLANKS
- EXCELLENT FLOW
- HIGH OPACITY
- NO SPECIAL UNDERCOATING REQUIRED
- QUICK DRYING
- WITHSTANDS CONSTANT WASHING WITHOUT DAMAGE AND WITHOUT POLISHING
- AVAILABLE IN 36 COLOURS FROM GAY'S ARCHITECT'S RANGE

Write for full information and shade cards to

R. GAY & CO. *93/97 New Cavendish Street, London, W.1*

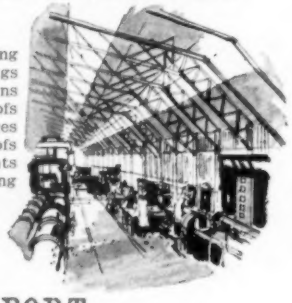
IN COMMERCE

Counter Fronts
Movable Screens
Window Displays
Partitions
Lighting Effects
Awnings
Shopping Canopies
Diffused Lighting

EVERYWHERE

IN INDUSTRY

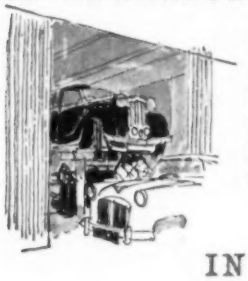
Glazing
Luminous Ceilings
Partitions
Warehouse roofs
Signs and Notices
Dock Roofs
Shower Compartments
Cladding



people are using

FILON

IN TRANSPORT



Gangways
Rolling Stock
Railway Station roofs
Airports
Washing Sheds
Bus Shelters
Awnings
Maintenance Sheds
Garage roofs and doors

*** strong * lightweight**

*** translucent**

Stronger than steel weight-for-weight, non-corrodible **FILON** has hundreds of applications wherever there is need for economical, safe, and sturdy structural sheeting, with the added advantage of light transmission. **FILON** polyester/glass fibre/nylon is shatterproof. Made by a continuous process, it is uniform in thickness, strength, and translucency. It is economical because of its strength, its long life without maintenance; because it is worked with ordinary tools, and lends itself to fast installation by conventional fixing methods.

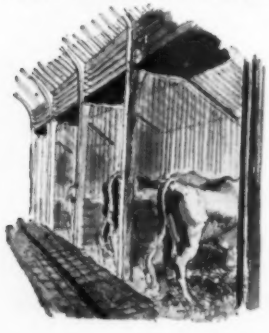
IN THE HOME AND GARDEN

Verandah Roofs
Skylights
Movable Screens
Greenhouses · Fences
Shower Compartments
Porches · Awnings
Wind Breaks
Garage Doors
Pool Enclosures
Sun Lounges · Canopies
Partitions
Garden Sheds · Glazing

FILON
STRUCTURAL SHEETING

for light with lightness and strength with economy

ON THE FARM



Barn Skylights
Storage Sheds
Greenhouses
Dairy Roofing
Poultry Equipment
Cow Byres
Cloches & Frames
Piggeries
Machinery Storage
Granaries & Driers
Stockhouse roofs

B.I.P. Reinforced Products Ltd · Streetly Works · Sutton Coldfield

Phone: Streetly 2411

Contractors: Clare College; Kerridge (Cambridge) Limited. Magdalene College; Kidman & Son Limited.

WINCILATE

slate cills and aprons have been used—to good effect—on the new buildings designed by David Roberts MA FRIBA for Magdalene College and Clare College, Cambridge, which are illustrated in this issue.
Information on all **Wincilate** products is available from:
The Bow Slate & Enamel Co. Ltd., The Town Hall, Bow Road, London E.3. Telephone: ADVance 2203
Works: Bow and Battersea
Quarries: Aberllefeni, N. Wales

The Wincilate Group

"I can't afford conventional paints.

With LUXOL I know where I am on time and cost. Wash and rub down and one coat of LUXOL and I'm off to the next job . . . And there's always another one waiting because LUXOL keeps costs down"

BY APPOINTMENT TO HER MAJESTY QUEEN ELIZABETH II MANUFACTURERS OF PAINT BRITISH PAINTS LIMITED

LUXOL

The reason is, LUXOL Paints have exceptionally high opacity. Because of this, an undercoat is seldom needed and only one finishing coat is ever necessary. This saves very considerably on time and cost and the superior quality which makes LUXOL One-Coat Paints possible ensures a better finish.

HIGH OPACITY PAINTS

. . . A GOOD DEAL QUICKER!

BRITISH PAINTS LIMITED

Portland Road, Newcastle upon Tyne, 2
Crewe House, Curzon Street, London, W. 1 • 31, Wapping, Liverpool

Belfast · Birmingham · Bristol · Cardiff · Glasgow · Leeds · Manchester · Norwich · Plymouth · Sheffield · Southampton · Swansea and all principal towns.

HEATING PLAN FOR HOUSING PLANNERS

— special system for multiple housing

Weatherfoil Metered Heat provides the best of all worlds for municipal housing. The Weatherfoil system of forced warm air heating provides greater comfort for tenants yet installation and running costs are both exceptionally low. The tenant sets his own thermostat and pays by meter for heat consumed. The really dramatic economies of Weatherfoil Metered Heat are obtained, however, when dwellings are planned right from the start to exploit the unique advantages of the system.

15-STOREY MAISONETTES, SCEAUX GARDENS, CAMBERWELL

F. O. Hayes, A.R.I.B.A., Borough Architect. *H. C. Connell, A.R.I.B.A., Deputy Borough Architect.*
A. W. Butler, A.R.I.B.A., Senior Architect. *H. P. Trenton, A.R.I.B.A., Architect in Charge.*

WEATHERFOIL
Metered Heat

For multiple housing

DESIGNED, INSTALLED, SERVICED AND MAINTAINED BY WEATHERFOIL

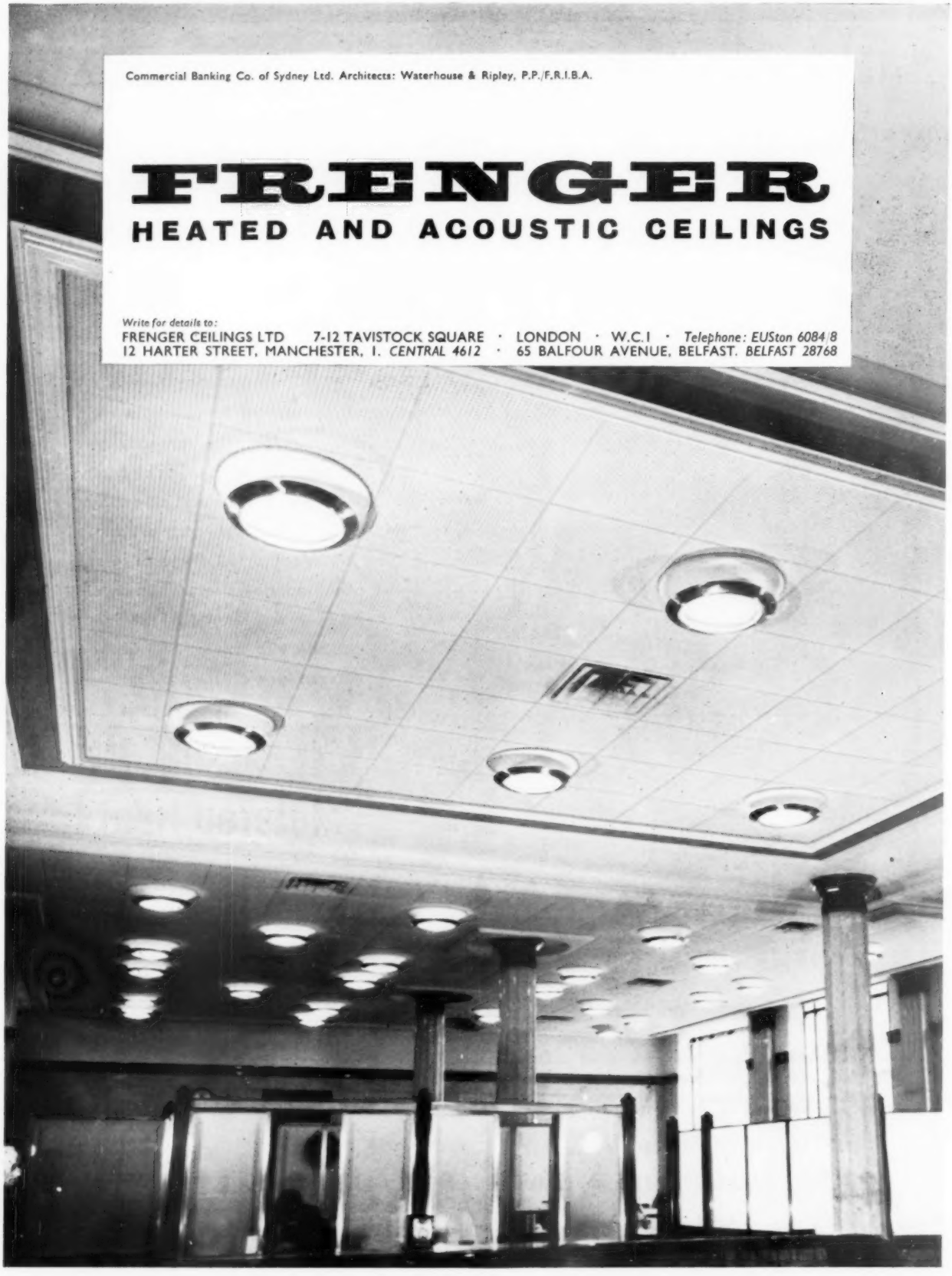
- Low cost installation
- Efficient heating
- Economical running
- Temperature and on/off control in each dwelling
- Tenant pays by meter

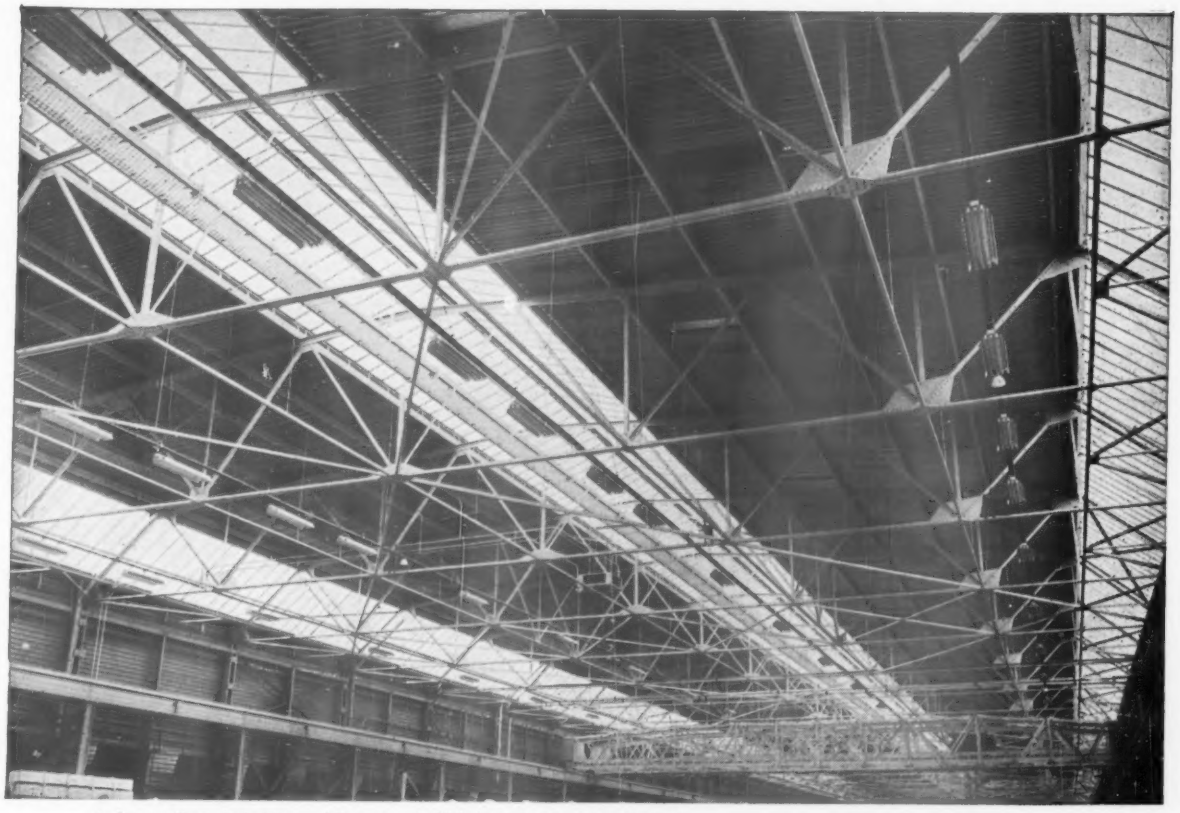
WEATHERFOIL HEATING SYSTEMS LIMITED

HEAD OFFICE: 185 Bath Road, Slough, Buckinghamshire. Phone: Slough 25561

19 Berkeley Street, London, W.1. Grosvenor 5146 · Broadgate House, Coventry, Warwickshire. Coventry 40110

Design and installation of all types of heating, hot and cold water systems, air conditioning and air treatment plant


Commercial Banking Co. of Sydney Ltd. Architects: Waterhouse & Ripley, P.P./F.R.I.B.A.
FRENGER
HEATED AND ACOUSTIC CEILINGS
Write for details to:
FRENGER CEILINGS LTD 7-12 TAVISTOCK SQUARE · LONDON · W.C.1 · Telephone: EUSton 6084/8
12 HARTER STREET, MANCHESTER, 1. CENTRAL 4612 · 65 BALFOUR AVENUE, BELFAST. BELFAST 28768



Architects: Central Architectural Department of The British Aluminium Co. Ltd.
Principal Contractors: Sir Alfred McAlpine & Son Ltd.

HAYWARDS

"Reform" roof glazing

The illustrations show part of the "Reform" Alumalloy roof glazing extensively used on the new works for The British Aluminium Company at Latchford Locks.

Write for technical literature.

HAYWARDS LTD. UNION STREET LONDON S.E.1 *Phone WATerloo 6035 (Private Branch Ex.)*

BRANCHES BIRMINGHAM BRISTOL CARDIFF JERSEY DUBLIN LEEDS MANCHESTER NEWCASTLE-ON-TYNE

2854/A

ELECTRIC PASSENGER & GOODS LIFTS

HAMMOND & CHAMPNESS LTD

H&C LIFTS

Hercules House, London, S.E.1

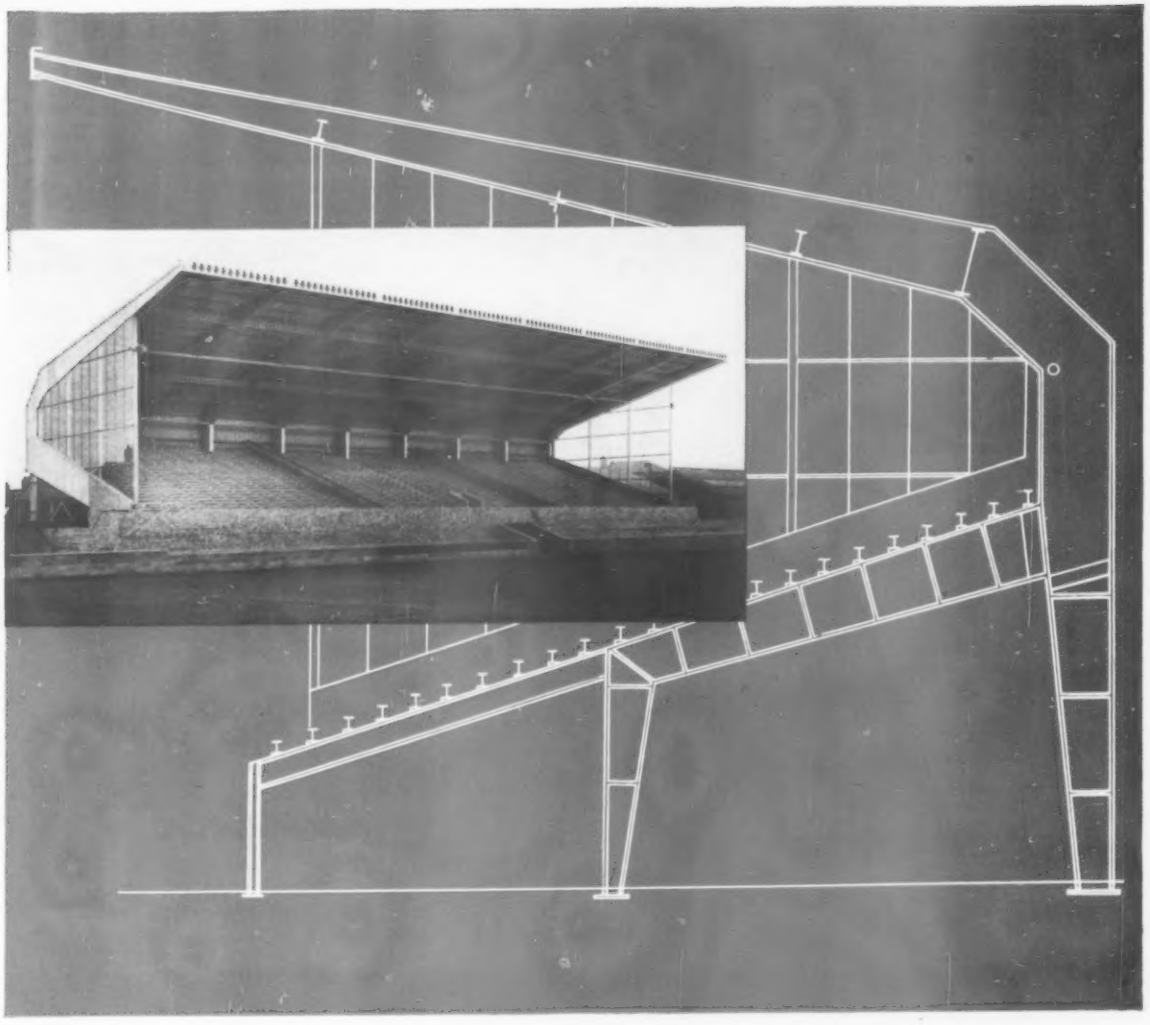
Three Dual Purpose Interconnected Collective Passenger Lifts with Variable Voltage Control.
Load, 12 persons at 300 ft. per minute.
Travel from basement to eighth floor,
Call Accepted signals
and direction arrows on each landing.
Power operated sliding doors to car and landings.

Single Lift fitted with Fireman's Control,
travelling at 200 ft. per minute.
Position indicators
and direction arrows on each floor.
Power operated centre-opening doors.

Architects:
Messrs. Cambell-Jones & Sons, F/F.R.I.B.A.

HAMMOND & CHAMPNESS LTD.

GNOME HOUSE, BLACKHORSE LANE, LONDON, E.17. Telephone : LARkswood 1071
Branches in Glasgow, Birmingham, Liverpool, Plymouth, Belfast, Jersey.



designed, fabricated and erected in 3½ months

The grandstand at the ground of Scunthorpe United Football Club was designed, fabricated and erected in 3½ months by United Steel Structural Company. It seats 2,350 people. The side glazing and the forward extension of the canopy give good weather protection. The bold cantilever design of the steel frame dispenses with pillars that would interfere with the view from the grandstand seats.

Steel frame construction made it possible to complete the contract between football seasons. "Gate" revenue was therefore not affected.

UNITED STEEL STRUCTURAL COMPANY LIMITED

SCUNTHORPE · LINCOLNSHIRE

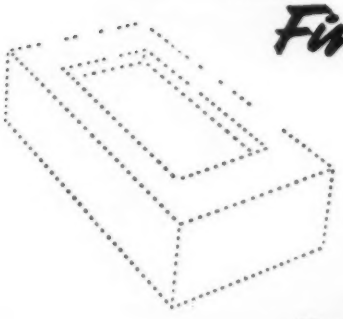
US541

UXBRIDGE FLINT BRICKS

have many advantages :—

COLOUR: Available in many attractive shades; including Cream, Buff, Golden, Light Brown, Terracotta, Lilac, Purple, Silver-Grey, Blue-Black.

Fine modern buildings demand

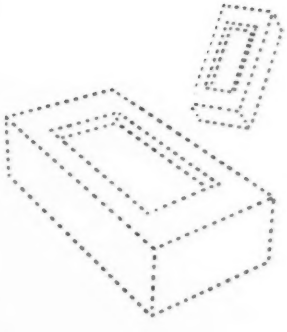


DURABILITY: Will withstand severest weather conditions.

STRENGTH: Extremely hard. Uxbridge Flint Bricks have a crushing strength to suit most requirements.

LIGHT REFLECTION: Because of the unique hardness and texture of the brick, dirt and soot are less likely to work into it.

Fine modern bricks

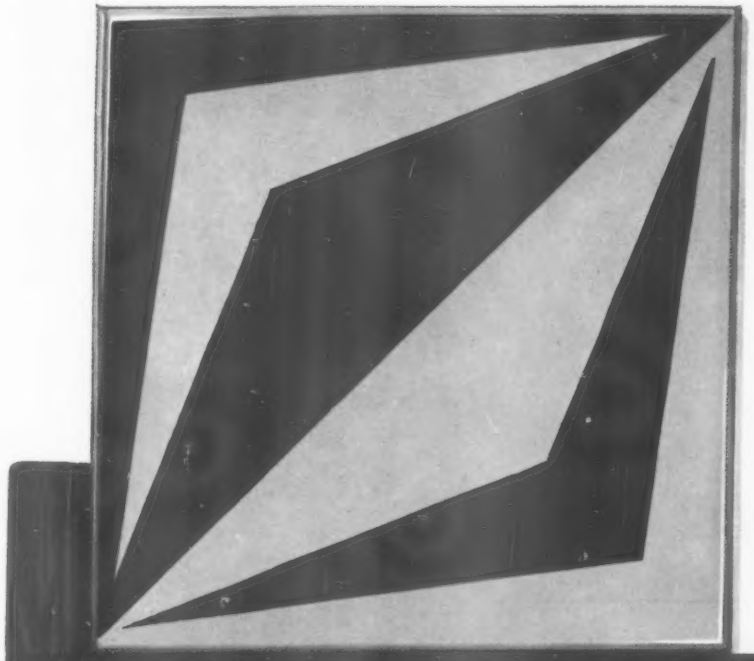


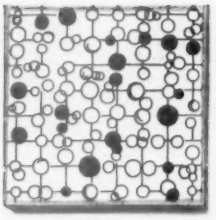
Bowater House, Knightsbridge, S.W.1. No 90 Lilac 2" Bricks used for facing the tower block.

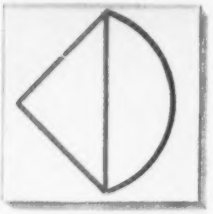
Architects: Guy Morgan & Partners. Photo by courtesy of The Bowater Organisation.

Manufactured by **CAPE BUILDING PRODUCTS LTD · COWLEY BRIDGE WORKS · UXBRIDGE · MIDDX** *Tel: Uxbridge 4313*

A subsidiary of The Cape Asbestos Company Ltd. Also at: MANCHESTER · BIRMINGHAM · GLASGOW · NEWCASTLE U81

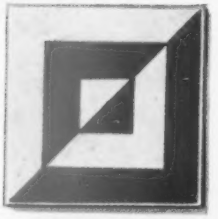


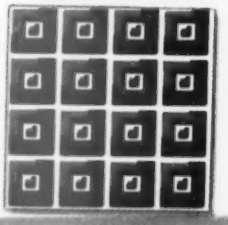




Plan with PILKINGTON'S tiles

Pilkington's offer a carefully selected and balanced range of plain coloured tiles in various finishes and a large variety of decorated tiles suitable for all types of buildings. Pilkington's Design Department is at your service to give you any advice or assistance you may require.





Sample packs of our different ranges of colours and a brochure illustrating the full range of screen printed tiles will be supplied on receipt of this completed coupon.

NAME _____

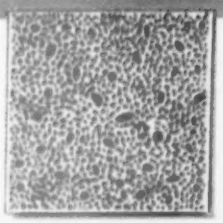
FIRM _____

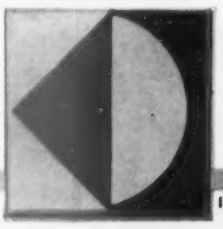
ADDRESS _____

PLAIN/SCREEN PRINTED *(delete one if both not required)*

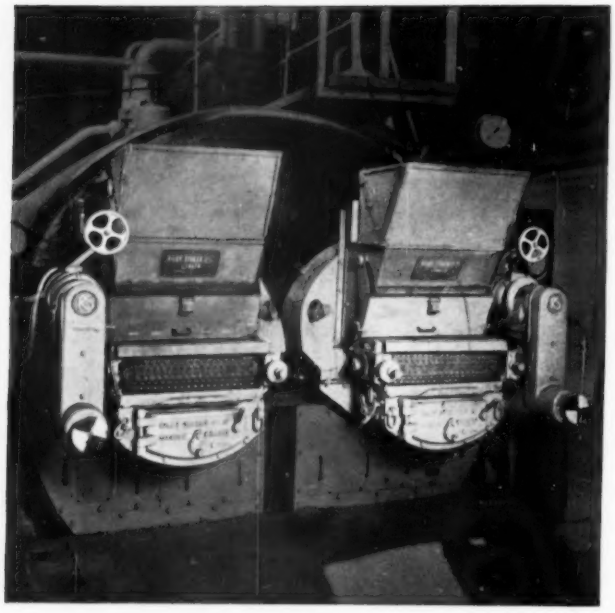
PILKINGTON'S TILES LIMITED

CLIFTON JUNCTION · NEAR MANCHESTER





1473 ®



PROVED PERFORMANCE...

THE

RILEY TYPE 'T'

CHAIN GRATE STOKER

The Riley Type 'T' Chain Grate Stoker has been developed specially to burn efficiently, and in sufficient quantities, small sized low grade coals which are high in ash content.

For Horizontal Shell-type Boilers

The stoker body is of rigid fabricated steel box structure, with zonal air control.

The grate surface is formed of die-cast links of heat resisting cast iron and high individual strength.

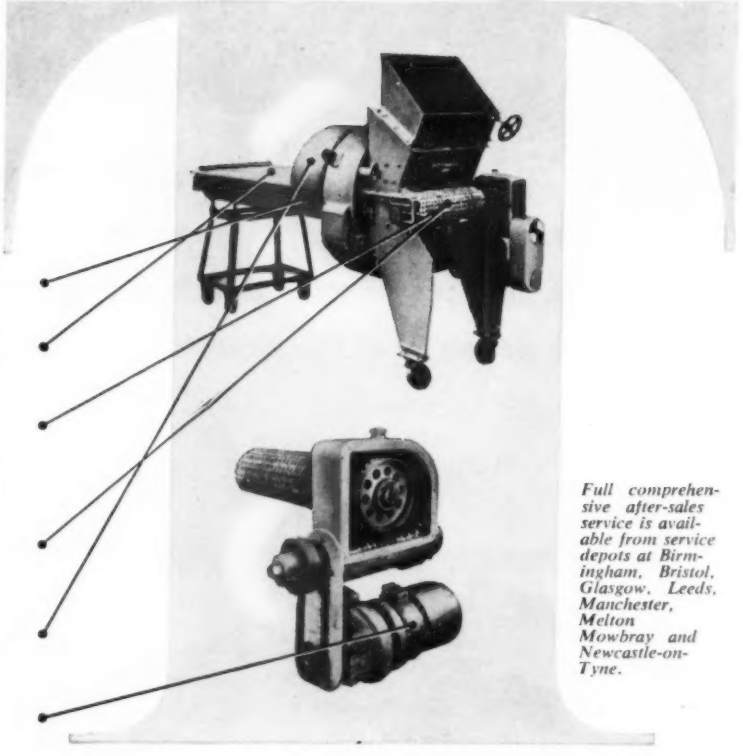
All links, except for the two rows of heavy side links, are of equal thickness and are disposed to ensure that air spacing is uniform across the grate.

Odd links can be replaced easily without withdrawing the stoker from the boiler.

Refractory lined furnace flue extension incorporates air ducts and peep-hole door.

Geared motor drive for A.C. or D.C. supply.

Please write for booklet R581.



Full comprehensive after-sales service is available from service depots at Birmingham, Bristol, Glasgow, Leeds, Manchester, Melton Mowbray and Newcastle-on-Tyne.

RILEY (IC) PRODUCTS LIMITED

One of the International Combustion Group of Companies.

NINETEEN WOBURN PLACE · LONDON · W.C.1 · TELEPHONE: TERMINUS 2622

TGA R61

FACTORY FOR FURTEX LTD., AT HACKENTHORPE, YORKSHIRE

Moir and Bateman, architects.

This is a typical Clearspan steel portal roof—light, clear and spacious. Yet Clearspan costs less than other forms of construction. As the subject of careful cost comparison in the "Architects' Journal", June 5th, Clearspan showed a saving of 3s. 4d. per square foot over its nearest rival, a total saving of £7,000.

***CLEARSPAN*—the most comprehensive and attractive range of buildings ever produced.**

Spans up to 150′. Roof slopes 12°—17°—22°. Cranes 5 and 10 tons.

(Variations from Standard available to order.)

"CLEARSPAN" cut the cost by £7,000

Send for illustrated brochure

CONDER ENGINEERING CO LTD WINNALL WINCHESTER HANTS · TELEPHONE 5095

CONDER ENGINEERING CO (MIDLANDS) LTD PEEL HOUSE BURTON-ON-TRENT · TEL 5411

P2495

Bowater

ensure modern standards of hygiene at their Northfleet factory extension by installing

Hygienette

AUTOMATIC ELECTRIC INCINERATORS in all womens' toilets

The complete installation detail was prepared by us for the architects, Messrs. Farmer & Dark, FF.R.I.B.A.

The "Hygienette" is a completely safe, trouble-free, maintenance-free, electric incinerator that rapidly reduces to a clean dry ash used sanitary towels, septic dressings, swabs, etc. Just open the door, drop in the waste and close the door - the "Hygienette" does the rest. It's as easy and simple as that. Full information, specifications and data sent on request.

THE *Hygienette* AUTOMATIC ELECTRIC INCINERATOR

Awarded the certificate of The Royal Institute of Public Health and Hygiene

THE HYGIENETTE MANUFACTURING COMPANY, 39 VICTORIA STREET, WESTMINSTER, S.W.1. TELEPHONE: ABBEY 5175

Inside the great Machine House at Bowater's Papermill

250,000 SEVENOAKS WHITE 'STONETONE' FACINGS

were used for maximum light reflection, of which 80,000 were used in one wall 160 feet long by 50 feet high

The architects for Bowater's Papermill at Northfleet are Messrs. Farmer and Dark, F.R.I.B.A.

SEVENOAKS 'FIVES' for load bearing, Sharp Washed Sand and 'Lamotex' Hydrated Lime were also supplied by

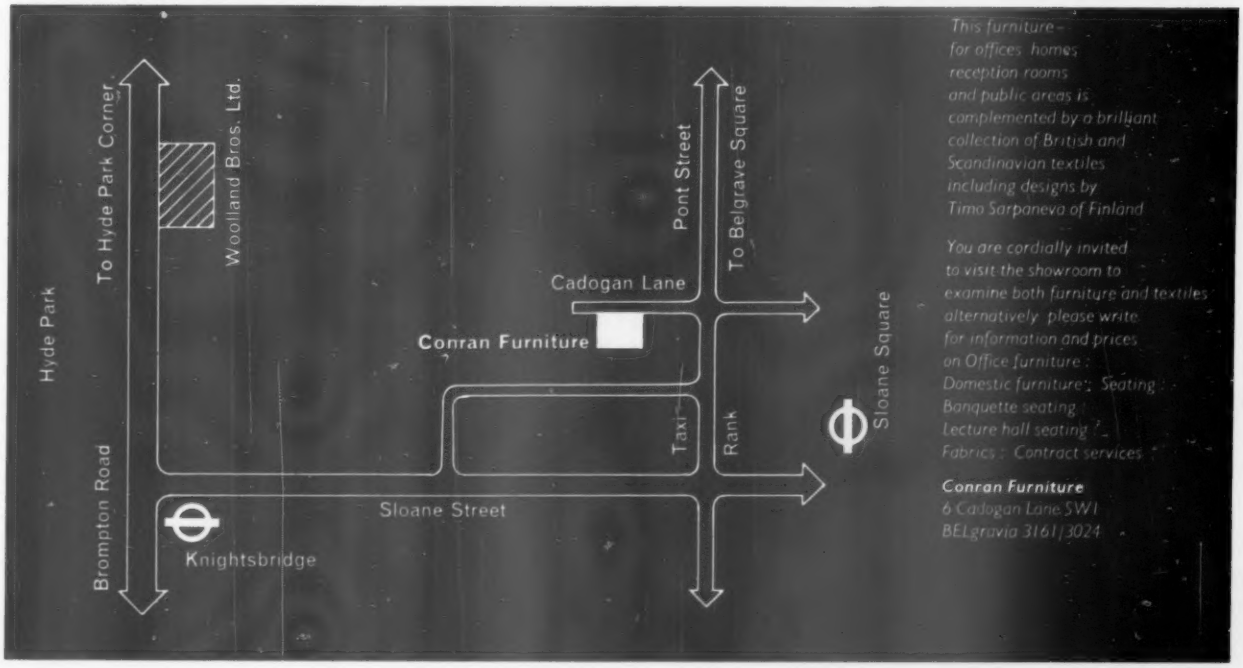
SEVENOAKS BRICKWORKS LTD · SEVENOAKS · KENT

Telephone Sevenoaks 2325

Makers of LOAD BEARING AND FOUNDATION QUALITY SANDLIME BRICKS
COLOURED SANDLIME FACINGS for even colour fair face
SAND FACED MULTI STOCKS · 'Lamotex' Hydrated Lime

07K

C
Tough
Competitive
Expertly Designed
On display in the
Conran Furniture showroom
is a comprehensive range
of furniture designed
specifically for contract
work and contract budgets


To Hyde Park Corner
Hyde Park
Woolland Bros. Ltd.
Pont Street
To Belgrave Square
Cadogan Lane
Conran Furniture
Taxi
Rank
Sloane Square
Brompton Road
Sloane Street
Knightsbridge
This furniture—
for offices homes
reception rooms
and public areas is
complemented by a brilliant
collection of British and
Scandinavian textiles
including designs by
Timo Sarpaneva of Finland
You are cordially invited
to visit the showroom to
examine both furniture and textiles
alternatively please write
for information and prices
on Office furniture :
Domestic furniture : Seating :
Banquette seating :
Lecture hall seating :
Fabrics : Contract services :
Conran Furniture
6 Cadogan Lane SW1
BELgravia 3161/3024

the ideal partnership . . .

Fine architecture and good
materials complement each other.
That is why so many architects always
specify Tuckers hand-made sandfaced tiles for the roof
Uniform in shape, size, texture and colour,
they mellow with age and are as
beautiful and durable as only clay can be.

Our free illustrated brochure will gladly be sent on request.

Specify **Tuckers**

Hand-Made Sandfaced Roofing Tiles

G. Tucker & Son Ltd. Loughborough Leicestershire
Telephone: Loughborough 2446-7 Telegrams: "Tuckers, Loughborough".
See our Permanent Exhibit at The Building Centre, Store Street, Tottenham Court Road, London, W.C.1. and The Scottish Building Centre, 425-427, Sauchiehall Street, Glasgow, C.2.

Pressure .... Heat!

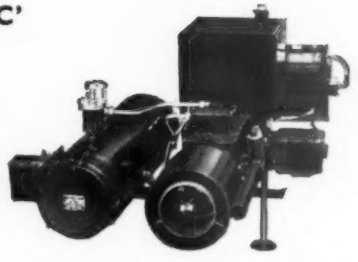
'AT ALL LEVELS'

Automatically controlled Water and Heat services!

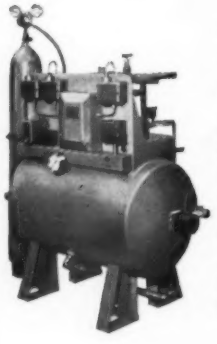
Two essentials—automatically controlled heat, and automatically maintained water pressures at all levels for factories and multi-storied buildings. We manufacture a wide range of plant to meet these requirements.

Designed to respond automatically to demand
BUILT AS SELF CONTAINED UNITS

'ELECTROMATIC' Fully Automatic OIL BURNERS



Capacity from 50,000 to 4,500,000 B.Th.U's per hour. The provision of heat for domestic and industrial purposes by oil burning is more economical and efficient than by solid fuel. "ELECTROMATIC" will give trouble-free service with the minimum of maintenance. They maintain even temperatures day and night, giving automatic heat, steam and constant hot water. Supplied complete with Lumastat photo-electric cell, flame failure control.



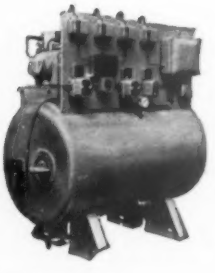
'NITROMATIC'

Pressurising equipment for medium and high pressure hot water systems

Designed to allow advantage to be taken of the increased efficiency and output obtainable by circulating water at temperatures above the normal boiling point. This is achieved by maintaining the whole system under pressure; the higher the temperature required the higher the operating pressure.
Medium pressure sets operate at 15/30 p.s.i. using water temperatures of about 230/250° F, and high pressure sets at 80/100 p.s.i. with water temperatures of about 300° F. Still higher pressures and temperatures can be used if necessary.

'BRUSTON'

Auto-pneumatic Booster Sets



200 to 50,000 galls. per hour. To provide high-pressure water supplies in modern buildings where top-floor services are on or near the hydraulic gradient. These standard units developed to meet the requirements of constant and unfailing water supply at high levels, are designed to operate in the confined spaces in many large buildings such as blocks of offices, flats, hospitals, factories, etc.

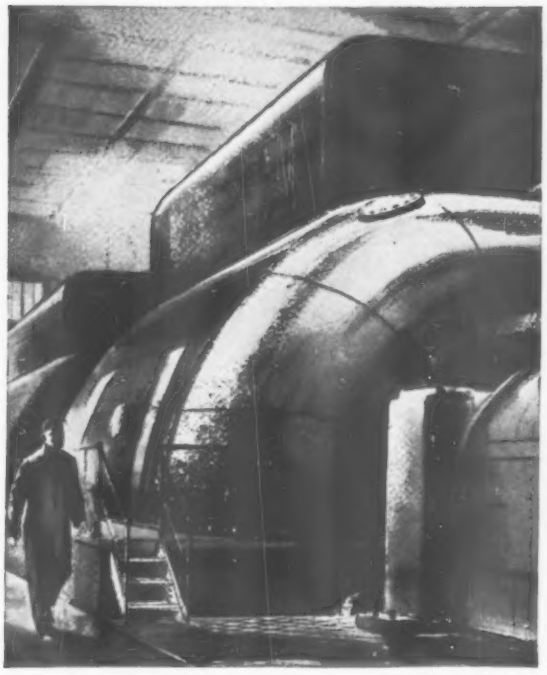
Our Technical Department is always at your service, and fully illustrated literature available upon request.

G. C. PILLINGER & CO. LTD.

(Dept. AR) SUTTON COMMON ROAD, SUTTON, SURREY

Telephone: Fairlands 8844 (5 lines)
Telegraphic Address: "Pillinger, Sutton, Surrey"

Works:
DERWENT WORKS, 602 PURLEY WAY, CROYDON, SURREY
Also at EXETER, CORK & DUBLIN



The world's largest Generators will help to fill the demand for still more power

The development of nuclear energy for generating electricity is still front-page news. Less publicised, though no less outstanding, are new developments in "conventional" generating plant. The turbo-alternator shown here is a 550,000 kilowatt unit – twice the capacity of the next largest on order for the Central Electricity Generating Board. It has been designed for the projected new power station at Thorpe Marsh. For Blythe 'B', another new station, 275,000 kilowatt in-line units are on order. They will be powered by steam at 2,350 lb. per sq. in. and 1,050°F, with reheat to 1,000°F.

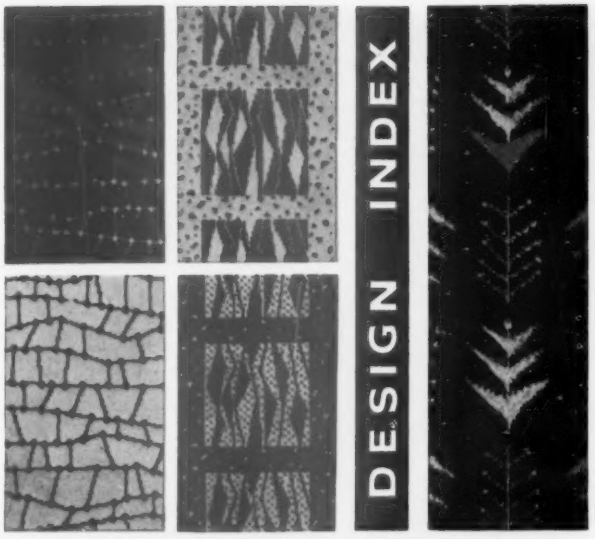
Nuclear power will play an important part in meeting the ever-increasing demand for electricity. Work is now in progress on the first three nuclear power stations, at Bradwell, Berkeley and Hinkley Point. By 1966/7 some 5 to 6 million kilowatts of nuclear-generated electric power will be available.

Though these projects will not be completed for some time, the Central Electricity Generating Board plays an important part in today's fight against inflation. Power stations are being built at a cost no greater than in 1948 – £50 per kilowatt installed. And, although the output of the industry has doubled since 1948, the increase in manpower is only about one-third.

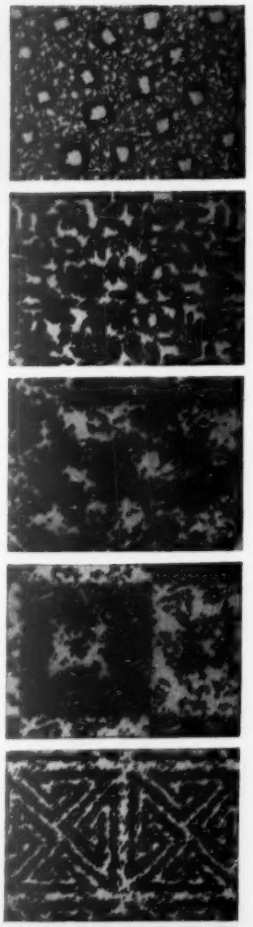
By providing today for the power we shall need in years to come, the Central Electricity Generating Board is building a secure foundation for our future prosperity.

CEGB

THE CENTRAL ELECTRICITY GENERATING BOARD



CONTRACT



FOLEY AND VERMONT WILTONS

Architects, consultants and contractors are invited to discuss these designs with their clients at our London Showrooms, 35 Aldersgate Street, E.C.1.

Any two-colour combination may be ordered from our twenty-five standard shades or, for a reasonable yardage, we shall be pleased to match client's own colours.

Foley is the heavy quality, Vermont is a lighter weight, both are excellent all-wool pile wiltons.

E

THE EMPIRE CARPET CO. LTD., KIDDERMINSTER

LATEX and PLASTIC FOAM CUSHIONING for LONG LENGTH SEATING

as used in

- HOTELS, BARS & CLUBS
- MUNICIPAL BUILDINGS
- RECEPTION AND WAITING ROOMS
- SCHOOLS AND LECTURE HALLS
- WINDOW BAYS AND ALCOVES
- EXHIBITION STANDS

Dunlopillo cushions and backrests supplied to any specification, uncovered or covered and ready for installation on site.

SEND FOR ILLUSTRATED LIST

LATEX UPHOLSTERY LTD.
THE LEADING SPECIALISTS
41, LONSDALE ROAD, LONDON, W.11
Telephone: BAYSWATER 6262-5

clearly DUPLUS

DOMELIGHTS

toplighting at its best

Duplus Domelights in Perspex—weatherproof and shatter resistant. Special turn-down edge gives additional strength and better weather proofing.

Circular up to 70" diameter.
Rectangular up to 106" × 70".
Prefabricated curbs available. Full details sent on request.

DUPLUS DOMES LTD., Chatham Street, LEICESTER

WELWYN BUILDERS LIMITED

General Contractors for the Queensway Store,

Queen's Square, Crawley, Sussex

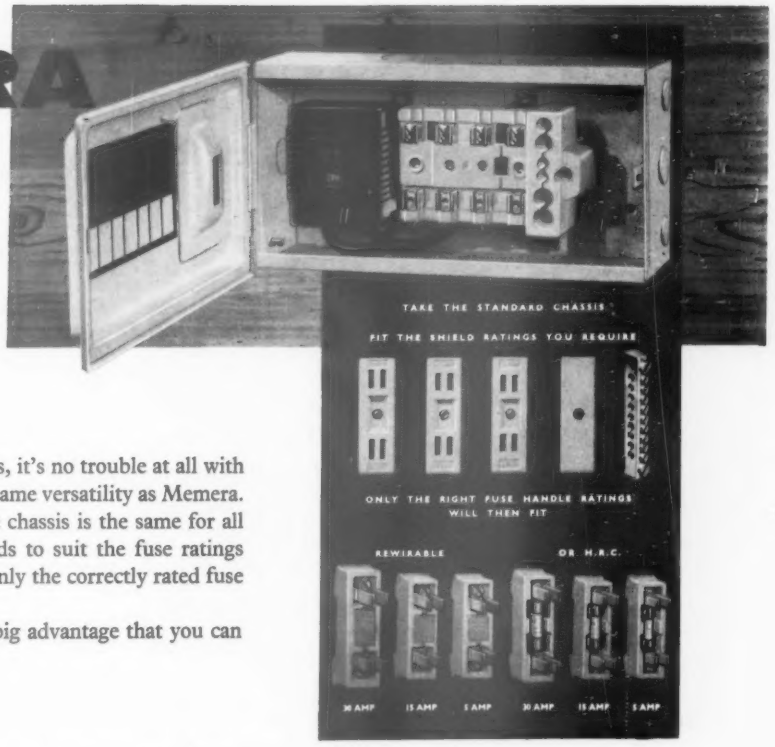
Architect: R. G. Thomson, Dip.Arch., A.R.I.B.A.

Consultant Designer: Gaby Schreiber, F.S.I.A.

WELWYN BUILDERS LTD 42 BRIDGE ROAD · WELWYN GARDEN CITY HERTS
WELWYN GARDEN CITY 4545

MEMERA

the unit which set a new high standard in the industry . . .



If the job calls for unusual fuse combinations, it's no trouble at all with Memera. No other equipment gives you the same versatility as Memera.

The system is so delightfully simple. The chassis is the same for all combinations. Just fit the appropriate shields to suit the fuse ratings you need for the job. Once these are fitted, only the correctly rated fuse handles can be inserted.

And of course with Memera there is the big advantage that you can use either rewirable or H.R.C. fuses.

MEM MIDLAND ELECTRIC MANUFACTURING CO. LTD.
TYSELEY · BIRMINGHAM 11

Race seating, now specified by many universities, is here shown in the new Medical School, University of Liverpool (architects: Weightman & Bullen)

lecture theatre seating

Race lecture theatre seating provides a series of components from which rows of any length can be economically shipped and assembled on site
It is adaptable to any step height or for fixing to a flat floor, the length of backrest varying proportionately to accommodate a writing shelf at the correct height for the row behind
Seats have a simple gravity self-tipping action and are covered in a heavy quality P.V.C. coated fabric; steel uprights are stove-enamelled; writing shelves and pre-formed plywood backrests (upholstered if preferred) are of lacquered mahogany

For further details write or telephone:

RACE FURNITURE limited

Sentinel House Union Road Clapham SW4 MACaulay 2215/7

PROBLEM—
PREFORMED MASTIC STRIP

"nobody makes it . . . ridiculous! . . . try ADSHEAD RATCLIFFE the mastic strip specialists

—they usually manage to put the latest developments into production before anyone else—witness ARBO-SEAL the first Mastic Strip containing Polythene—

they produce Mastic Strip to satisfy the main requirements in the Building Industry—more important still, they make the compound to suit the job—and provide a site service too."

ARBOSEAL is available in several consistencies, and in round, flat and triangular sections.
Recommended uses include—
Jointing and sealing Glass to Metal, Wood, Stone and Concrete.
Bedding and fixing Infilling Panels and Double Glazing Units.
Pointing around window and door frames.
Jointing concrete blocks, coping stones, etc.
Joint sealing in Pre-fabricated Buildings.
Top sealing Glasshouses.

Send your problem, requesting Information Leaflets and prices to:—

ADSHEAD RATCLIFFE & CO. LTD.,
BELPER, DERBY. **Telephone: BELPER 351/2**

millions of shoppers everywhere are walking on

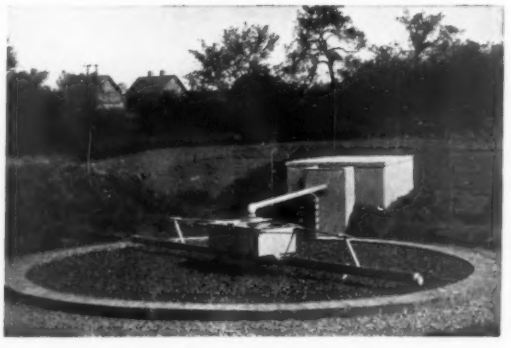
PHENCO

flooring

Phenco vinyl-plastic tiles and continuous flooring were laid in large quantities at the
QUEENSWAY STORE, CRAWLEY, SUSSEX

Phenco is manufactured by the
Phœnix Rubber Co. Ltd
Slough, Buckinghamshire Tel: 22307/9

SEWAGE PURIFICATION
for Country Houses



Installation for a Housing Scheme

TUKE & BELL LTD.
1 Lincoln's Inn Fields
London, W.C.2

Works: Lichfield, Staffs

FLEXOMETAL CUBICLES

Hangar, offices and workshops for Transair Ltd., Gatwick Airport

Architects : Clive Pascall and Peter Watson, F/A.R.I.B.A.
General Contractors : Sir Alfred McAlpine & Sons Ltd.

and

The King George VI Memorial Youth Hostel, Holland Park, W.8

Architects : Sir Hugh Casson, M.A. (Cantab), F.R.I.B.A., R.D.I., and Neville Conder, A.A.Dip., A.R.I.B.A.
General Contractors : A. T. Rowley (London) Ltd.

These are two of the many recent contracts we have had for supplying Flexometal Cubicles. They combine the following advantages :

STRENGTH • STIFFNESS
NON-DRUMMING • VERMIN PROOF
WEATHER RESISTANT • FIRE RESISTANT
HYGIENIC • WEIGHT-SAVING

Available in sheet form or can be supplied in any desired shape, size, and/or construction, with edges sealed if required.

An installation of FLEXOMETAL lavatory cubicles

Typical uses include shower and lavatory cubicles for factories and schools, swimming bath cubicles, hospital trolley shelves, heavy-duty doors of all types, coach body panels, ducting, insulation panels, wall and ceiling linings, bench and counter tops, stanchion casings, infill panels, insulated covers for industrial dryers, weatherproof notice boards, lift-car linings, louvre panels, lead-cored panels for X-ray screens, partitions, etc.

FLEXOMETAL

ANY TYPE OF METAL, bonded on one or both sides of Plywood, Asbestos Board, Hardboard, Chipboard, Insulation Material (Cork Board, Onazote, etc.), Dufaylite honeycomb or any other rigid material.

YOUR ENQUIRIES ARE INVITED:

FLEXO PLYWOOD INDUSTRIES LTD

SOUTH CHINGFORD, LONDON, E.4. *Telephone : Silverthorn 1101 (10 lines)* *Associated with Cork Manufacturing Co. Ltd.*

COPPER ROOFING

at

CLARE COLLEGE LODGING HOUSES

(illustrated on pages 382-385 of this issue)

was carried out by

KERSHAW HEATING LIMITED

of

CAMBRIDGE

SPECIALISTS IN COPPER, ALUMINIUM AND LEAD ROOFING

also

HEATING, VENTILATING AND PLUMBING ENGINEERS

CAMBRIDGE 56474-5

BY APPOINTMENT TO HER MAJESTY THE QUEEN
Suppliers of Fire Extinguishers The Pyrene Company Limited

. . . and the same thing may happen to the building itself—unless it has **PLANNED FIRE PROTECTION**

In the design and construction of modern buildings the planning of Fire Safety is of vital importance, demanding careful consideration at the very outset. The co-operation of The Pyrene Company's Fire Engineers has been at the service of Architects and Surveyors for over 40 years and today their expert and impartial advice is relied upon universally.

"Pyrene" Fire Protection includes Hand-operated and Portable equipment of every type, including Hose and Hydrants, Hose reels, Foam, CO_2 and Dry Chemical Installations. There are also "Pyrene" Fire Detecting Systems designed to give automatic warning of fire at any time—day or night.

The "Pyrene" Fire Extinguisher Hire Maintenance Plan, available to Architects' clients, provides the right number and types of extinguishers with constant inspection and maintenance.

For full information and advice please write to Dept. AR. 21.

Pyrene TRADE MARK FIRE FIGHTING APPLIANCES

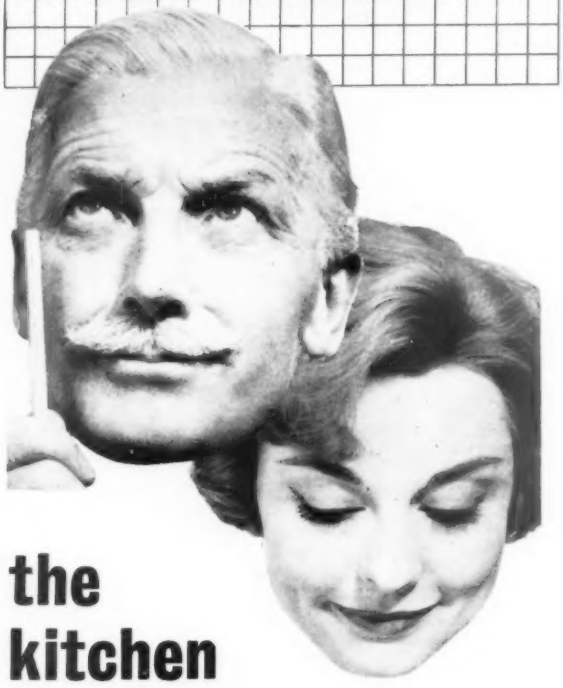
THE PYRENE COMPANY LTD

9 GROSVENOR GARDENS, LONDON, S.W.1. *Tel: Victoria* 3401

Head Office & Works: BRENTFORD, MIDDLESEX *Canadian Plant:* TORONTO

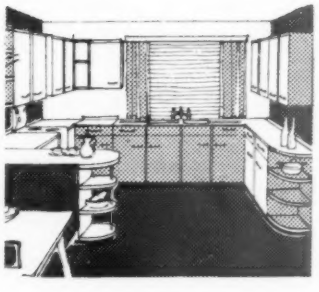
LEISURE

helps you plan...



the kitchen she dreams about

Remember, when kitchen planning, that the Leisure Advisory Service can be relied on for help. Leisure offer you the services of a photographic unit which will set up and photograph model kitchens for you. In this way you can get a complete picture of the kitchens you have in mind. According to your specifications of size, shape and price the Advisory Service will also suggest units to fit the kitchens you plan, so giving each an individual and made-to-measure look of quality and class. Why not write for details? Leisure experts are there to serve you.



LEISURE

THE LEADING NAME IN KITCHEN EQUIPMENT

Everetts

LEISURE KITCHEN EQUIPMENT LTD.
Nottingham Road, Long Eaton, Nottingham.
Proprietors: Allied Ironfounders.

Phone: CAMBRIDGE 59511 EST. 1887

G. COOK & SONS, LTD.

GENERAL PLASTERING CONTRACTORS

Fibrous Plaster Manufacturers
Wall and Floor Tiling Specialists
Workers in Cement

SQUASH COURT SPECIALISTS

Tiling and plastering contractors to River Building, Cambridge, and Lodging Houses, Clare College, illustrated on pages 378-385 in this issue

37 MONTAGUE ROAD, CAMBRIDGE

CONTOUR low back, metal frame

CONTOUR range of upholstered chairs designed for public places and offices, take up little floor space, are strong, graceful and very comfortable. Upholstered in a wide range of fabrics over foam rubber and available in the four models illustrated.

CONTOUR fully upholstered, adjustable, high back, wooden frame

FINMAR LIMITED 26 Kingly Street London W1 Regent 8308

CONTOUR adjustable, high back, metal frame

CONTOUR adjustable, high back, wooden frame

ELCO CORK TILE FLOORING

Supplied and laid
at
The Bowater Factory Extensions,
Northfleet
by

E. J. ELGOOD LTD.

FLOORING SPECIALISTS

INSULCRETE WORKS,
YEOMAN STREET, LONDON, S.E.8
Telephone BERMONDSEY 1144 (7 lines)

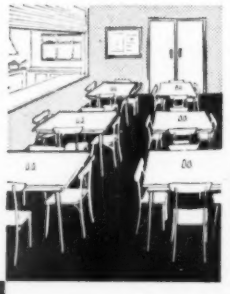
Architects: Messrs. Farmer and Dark, F/F.R.I.B.A

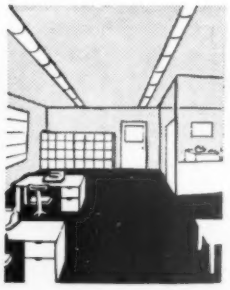
another attractive carpet design by CARPET TRADES CONTRACT SERVICE

One more proof of successful co-operation, with client, architect and carpet manufacturers meeting for personal discussion and consultation. Carpet Trades Ltd. offer this specialised service to all their contract clients. The carpet installation shown here, produced exclusively for Royal Mail Lines, is in the 1st class dining room of *R.M.S. Andes*. The carpet, designed to the specification of the architect, is in 'Sentinel', another high quality fine woollen Wilton, with a striking modern design on a tan background. (Goods are supplied through normal trade channels only).

CARPET TRADES LTD. KIDDERMINSTER

This seamless plastic flooring has everything

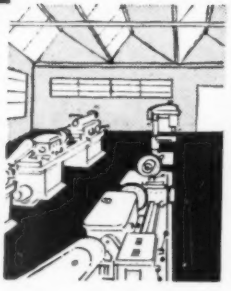


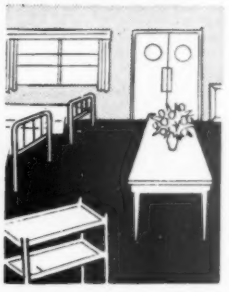


Pat. applied for

Plasik

The ideal floor for
HOSPITALS · FACTORIES
SCHOOLS · CANTEENS
OFFICES · MOTOR SHOWROOMS





Plasik surface is non-slip—no seams, no joints.

Plasik is waterproof, greaseproof and strongly resistant to chemicals (including lactic acid) and urine.

Plasik does not dust up, and is easily cleaned.

Plasik sets hard and smooth, with a clear and durable matt surface, and can be applied to cove skirtings and walls.

Plasik is professionally laid to standards you trust.

Plasik is made in ten attractive colours; it is THE ONLY TRANSLUCENT COLOURED INDUSTRIAL FLOOR THAT WITHSTANDS TRUCKING.

MANUFACTURED AND LAID BY
VIGERS

Write for sample of Plasik and Leaflet PR *Technical advice gladly supplied*

VIGERS BROS LTD Ludgate Broadway, London, E.C.4 Tel: CITy 2111

And at Belfast, Exeter, Cardiff, Birmingham

NEW! A SCIENTIFIC TREATISE on

TIME & MOTION
IN THE OFFICE

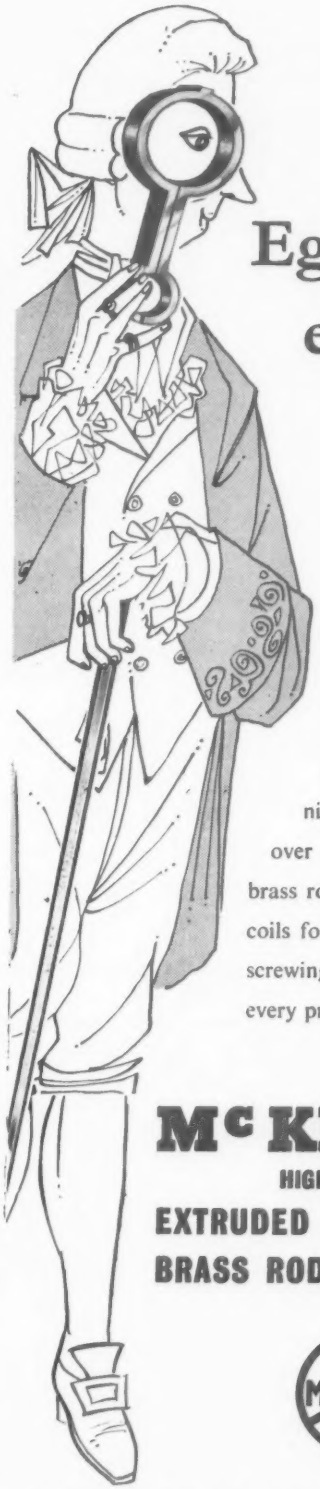
Send for this Guide to SPACE-SAVING and FLOW-PRODUCTION

What are the major problems in present-day business administration?
Space. Output. Staff shortages. Economy.
What can be done about them?
This 10-colour book tells you. It shows how two or two hundred people can have more desk area in less floor space . . . how the *output per employee* can be increased . . . how the departmental *flow* of work can be speeded up. It introduces *office* Work Study on a new basis. . . .
Work Study in the factory is accepted as a modern essential. So it should be in the office—where staff problems frequently create 'bottlenecks,' and salaries are a serious item in the overheads. Moreover 'clearing the decks' of unnecessary impedimenta (which can now be integral to each employee's 'work-station') is a subject deserving far more study than it receives.
This just-published book also introduces a remarkable new concept in office fitments—not merely as regards planned design, but also in certain unique constructional advantages embodying *wood*, plus *steel*, plus *colour*. . . . Nothing like this has ever been seen in this country before.
Every business Executive—in the smallest or largest organization—should study this book. (Architects and O & M Executives especially!) Attach the coupon below to your letterheading.

O & M Shannon Systems
Trade Mark SHANNON
O & M TO BRITISH BUSINESS
The Shannon Ltd., 54, Shannon Corner, New Malden, Surrey
Branches throughout the Country.

Send me free and without obligation your book on Work Study in the office, for the attention of.....

594



Egad—how exquisite!

It is the consistent high quality and faultless finish of McKechnie Extrusions that has made them the choice of industry throughout the world. Whether sections in brass, bronze, nickel silver or copper from over 20,000 dies available or brass rods in straight lengths or coils for high speed turning and screwing, McKechnie can meet every production need.

Mc KECHNIE
HIGH QUALITY
EXTRUDED SECTIONS and BRASS RODS for Industry

McKECHNIE BROTHERS LIMITED
14 Berkeley Street, London, W.1. Telephone: Hyde Park 9841/7.
Metal Works: Rotton Park Street, Birmingham 16 and Aldridge, Staffs.
Other Factories at Widnes, London, South Africa, New Zealand.
Branch Offices at London, Manchester, Leeds, Gloucester, Newcastle-upon-Tyne, Glasgow (Agents J. Hood & Co.), Paris.

Nurses' Home, Baguley Sanatorium. *G. Noel Hill, F.R.I.B.A., M.T.P.I., former Manchester City Architect.*

Golden Brown Sandfaced, the bricks used for this attractive building, combine a very pleasing appearance with the physical properties of engineering bricks. Samples and particulars on request.

THE ACCRINGTON BRICK & TILE CO. LTD.
ACCRINGTON Telephone: Accrington 2684

Southern Representative: L. G. ROGERS, "Oak Lea," Main Road, Westerham Hill, Kent. Telephone No.: Biggin Hill 0538

ACCRINGTON NORI BRICKS

AN ASSOCIATION OF ARTIST CRAFTSMEN

MAKERS OF PRINTING BLOCKS IN LINE
HALFTONE AND COLOUR
ARTISTS · PHOTOGRAPHERS

THE ENGRAVERS GUILD LTD

WINDSOR HOUSE · CURSITOR STREET · LONDON · E.C.4

SPECIFY WHEN PLANNING THE

SUGG HALCYON SELECTIVE AIR HEATER

IMMEDIATE WARMTH . . . FOR SEVERAL ROOMS . . . BY SIMPLE FINGER-TIP CONTROL

CAPITAL COST UNDER £80

The flexibility of the Halcyon Gas Heater makes it an eminently suitable heating installation for every type of residence – from bungalows and houses to flats.

Built for operating in a very small cupboard, its unusual compactness, combined with its many outstanding features, have made instant impact on architectural plans in all parts of the country.

Halcyon offers highly efficient heat transference to the air flow, resulting in a discharge of pure warmed air within a few minutes. Halcyon is silent – there is no smoke – there are no fumes.

Full literature and technical details available from the manufacturers:

WILLIAM SUGG & COMPANY LTD.
67-73 REGENCY ST., LONDON, S.W.1 Tel. VICtoria 3211

SPEED UP SALES..

WITH HARRISON QUALITY PRODUCTS

drape H QUALITY '950' SERIES

Harrison (Birmingham) Ltd., P.O. Box 233, Bradford St. Works, Birmingham, 12

GATWICK AIRPORT

for **Ministry of Transport**

and **Civil Aviation**

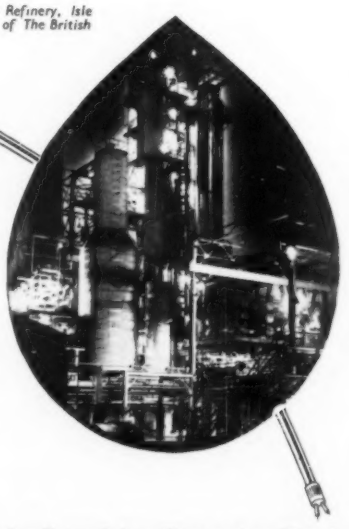
Metal windows supplied and fixed to 1st floor of the Pier, G.P.O. Block and Boiler House and Metal Ventilator Inserts to the cladding to the Terminal Building.

MELLOWES & CO. LTD.

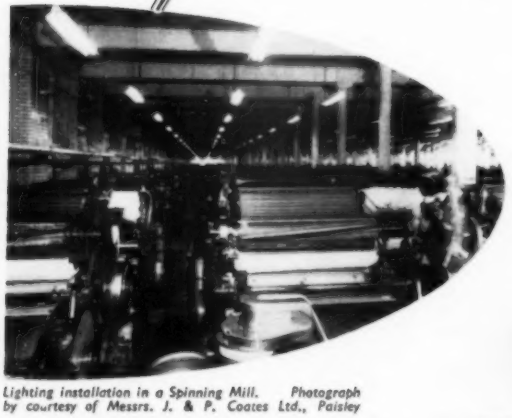
SHEFFIELD LONDON OLDHAM

Consulting Engineers: **Frederick Snow & Partners**
Architects: **Messrs Yorke, Rosenberg & Mardall**
Main Contractors: **Turriff Construction Co. Ltd.**

A Distillation Unit at the BP Kent Refinery, Isle of Grain. Photograph by courtesy of The British Petroleum Co. Ltd.



IN OIL, TEXTILES *and...*



Lighting installation in a Spinning Mill. Photograph by courtesy of Messrs. J. & P. Coates Ltd., Paisley

. . . Factories and Works, Laundries, Breweries, Hotels, Flats, Atomic Pile Installations and Research Establishments. Electric Power Stations. Oil Pumping and Storage Installations. Cathedrals, Churches. Galleries and Museums. Oil Tankers. Passenger and Cargo Ships, Warships, etc.

PERFECTED BY EXPERIENCE

Pyrotenax

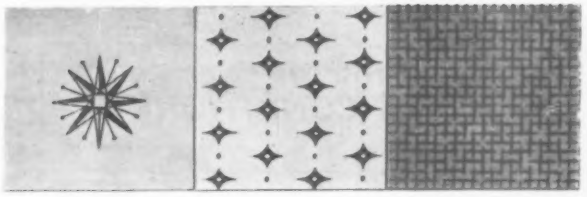
m.i. COPPER COVERED CABLE

non-fire causing—heat resisting—moisture proof—non-ageing—rust-proof—safe against overload—resistant to mechanical maltreatment—resistant to noise transmission.

Write for full details and "Technical Data B 103"

PYROTENAX LTD., HEBBURN-ON-TYNE. 'Phone: HEBBURN 83-2244/7

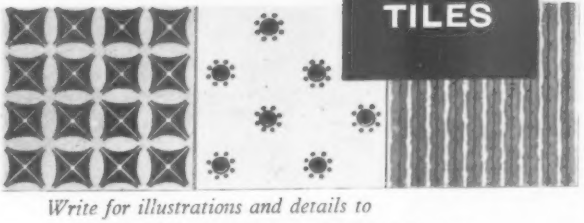
GD103 **LONDON:** *VICtoria 3745.* **BIRMINGHAM:** *Midland 1265.* **MANCHESTER:** *Deansgate 3346/7.* **LEEDS:** *Leeds 27826.* **GLASGOW:** *City 3641/2.* **CARDIFF:** *Cardiff 23689.*



Architecturally speaking

Malkin present a new range of screen printed tiles. They are planned to make a positive contribution to wall design and have the backing of the Malkin tradition of craftsmanship.

MALKIN Screen printed TILES



Write for illustrations and details to

THE MALKIN TILES (BURSLEM) LTD
BURSLEM STOKE-ON-TRENT
TELEPHONE STOKE-ON-TRENT 87287

Members of the Glazed and Floor Tile Manufacturers Association. 1968 ®

NEW SCANDINAVIAN DESIGNS

Now being made under licence

by X-LON PRODUCTS

48 Gillingham Street,

London, S.W.1. Tel: Victoria 7412

Metal Letters

In STAINLESS or ENAMELLED STEEL

CAST BRONZE LETTERS (including CERAMIC Filled) Write for New Illustrated List | ENGRAVED BRONZE PLATES | PERSPEX LETTERS

Neon SIGNS

COMPLETE INSTALLATIONS erected and maintained for the Trade using plain vans

Chase Products (ENGINEERING) LTD
27 PACKINGTON ROAD SOUTH ACTON, W.3
Telephone Acorn 1153-4

A TESTAMENT
BY FRANK LLOYD WRIGHT

just published at 70s. (postage 2s. 3d.) by the Architectural Press, 9-13 Queen Anne's Gate, Westminster S.W.1

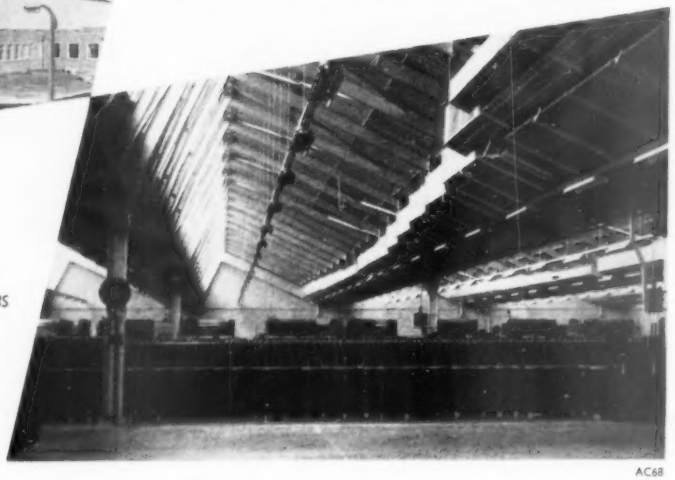
BOOKS *our complete free illustrated catalogue may be obtained simply by addressing a postcard to the Architectural Press at 9-13 Queen Anne's Gate, Westminster, S.W.1*

HATHERNWARE Green Stone-faced FAIENCE
HATHERNWARE LTD.
LOUGHBOROUGH. LEICS.
Telephone: Hathern 273/4.
ENHANCES THE LARGE NEW BUCKLERSBURY HOUSE, WALBROOK, LONDON. Architects: Campbell Jones & Sons.

Mellor Bromley

AIR CONDITIONING

SUPPLYING
18,800,000 cubic feet of air per hour
EXTRACTING
15,100,000 cubic feet of air per hour
at the new Jute spinning factory of
JUTE INDUSTRIES LTD. DOUGLASFIELD
Architects and Consultants: Sir Alexander Gibb & Partners, London

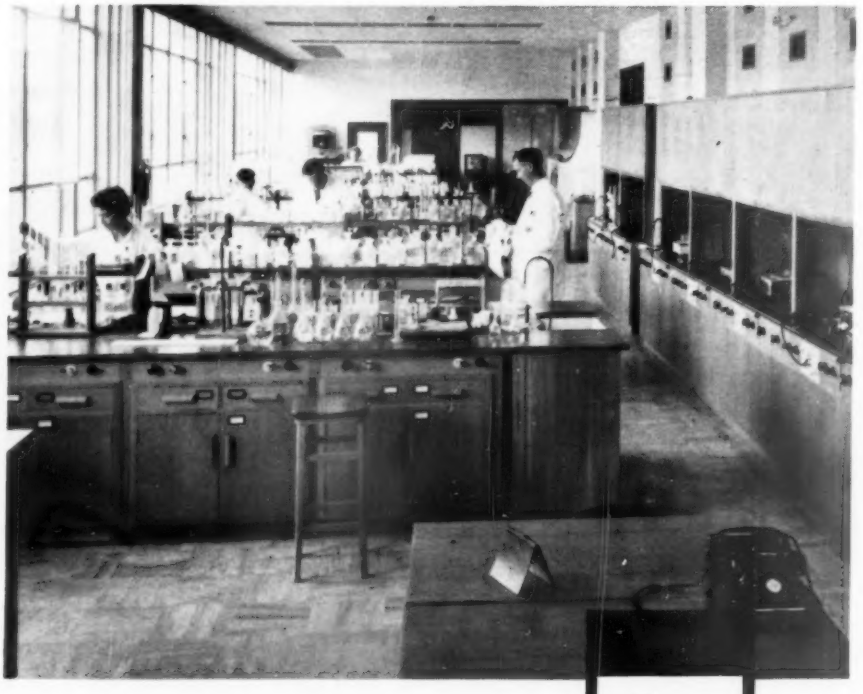


MELLOR BROMLEY (AIR CONDITIONING) LTD.
HEATING, VENTILATING & AIR CONDITIONING ENGINEERS & CONTRACTORS
BARKBY ROAD, LEICESTER
Telephone: Leicester 66651
MEMBER OF THE BENTLEY GROUP

AC68

---

designed by
EXPERTS
and built by
CRAFTSMEN



In common with many distinguished industrial and educational institutions the British Petroleum Research Station at Sunbury-on-Thames has specified Cygnet Joinery for its laboratories. Designed by experts, and built by craftsmen to meet the most exacting demands Cygnet Laboratory Furniture is obtainable in a large range of standard units or as specified. Our technical staff is available to advise you on laboratory design and layout.

Send now for full details.

CYGNET JOINERY LTD · HIGHER SWAN LANE · BOLTON

TELEPHONE : BOLTON 10140 (TEN LINES)

Consistently the best !

You have our modern, scientifically-controlled Direct Oil-Fired Tunnel Kiln to thank for the complete uniformity and competitive prices of WINDMILL Tiles. Consistent in strength, colour and size—they are the result of advanced and highly effective production methods and conform to British Standard 1286 : 1945. SPECIFY rich, dark red or brown fleck WINDMILL Quarry Tiles for your next flooring contract. Available in standard sizes and suitable for flooring Hospitals, Schools, Kitchens, Sculleries, Canteens, Dairies, etc. WINDMILL dust pressed floor tiles and fittings are also available.

All the more reason for specifying

Send your enquiries or ask for our representative to call

THE ALLIED BRICK AND TILE WORKS LTD.
6-7 QUEEN STREET, LONDON, E.C.4
Tele:- CITY 2725
Works at: NAPTON-ON-THE-HILL, HARROGATE AND RAMSDELL

WINDMILL
QUARRY TILES

Have you seen our new "Brown Fleck" Quarry Tiles?

SEND NOW FOR SAMPLES AND BROCHURE

JAMES
make good METAL WINDOWS

W. JAMES & CO. LTD.
Hythe Rd. Willesden Junction
LADbroke 6471 (6 lines) N.W.10

QUEENSWAY STORE

CRAWLEY—featured in this issue

designed by Gaby Schreiber & Associates

the distinctive main entrances and many of the interior fittings on the ground floor were installed by

DAVIS, RIDLEY & CO., LTD

SHOPFITTERS AND JOINERY MANUFACTURERS

52a GREAT NORTH ROAD, HATFIELD, HERTS

telephone HATFIELD 2443

ALPHABETICAL LIST TO ADVERTISERS

	PAGE
Accrington Brick & Tile Co. Ltd.	cxx
Adshead Ratcliffe & Co. Ltd.	cxiv
Airscrew Co. & Jicwood, Ltd.	xxxvi
Alexandria Trading Corporation Ltd.	xliv
Allied Brick & Tile Works, Ltd.	cxxv
Allom Heffer & Co. Ltd.	xciv
Alumin Building Components, Ltd.	xxxiv
Anderson Construction Co. Ltd.	lxi
Architectural Press, Ltd., The	cxxiii
Associated Lead Manufacturers, Ltd.	lxix
Automatic Telephone & Electric Co. Ltd.	xxxv
Banister Walton & Co. Ltd.	xv
Biddle, F. H., Ltd.	lxxix
Bilston Foundries, Ltd.	lx
B.I.P. Reinforced Products, Ltd.	xcvi
Bow Slate & Enamel Co. Ltd.	xcvii
Braby, Frederick, & Co. Ltd.	lxvi, lxvii
British Constructional Steelwork Association	lxxxiv
British Paints, Ltd.	xcviii
British Replin, Ltd.	lii
British Sanitary Firechay Association	xxxix
British Visqueen, Ltd.	xxi
Burgess Products Co. Ltd.	xlii
Cafferata & Co. Ltd.	v
Canadian Government	xvii
Cape Building Products, Ltd.	civ
Carpet Trades, Ltd.	cxviii
Catesby's Contracts & Export Ltd.	vii
Central Electricity Authority	cxi
Chase Products, Ltd.	cxxiii
Clark, James, & Eaton, Ltd.	ix
Colthurst Symons & Co. Ltd.	lxxxi
Conder Engineering Co. Ltd.	cvii
Conran Furniture	cix
Cook, G., & Sons, Ltd.	cxvii
Copperad, Ltd.	cxxvii
Cox & Co. (Watford), Ltd.	xxv
Crane, Ltd.	xxxvii
Crittall Manufacturing Co. Ltd.	x, xi
Cygnet Joinery, Ltd.	cxxiv
Davis, Ridley & Co. Ltd.	cxxv
Dawnays, Ltd.	li
De La Rue, Thomas, & Co. Ltd.	xl
Demolition & Construction Co. Ltd., The	xviii
Dorman Long, Ltd.	vi
Duplus Domes, Ltd.	cxii
Edinburgh Weavers, Ltd.	lxxviii
Elgood, E. J., Ltd.	cxvii
Empire Carpet Co. Ltd.	cxi
Engravers Guild, Ltd.	cxx
Esavian, Ltd.	xxii
Esso Petroleum Co. Ltd.	lvi
Fibreglass Ltd.,	xiv
Finch, B., & Co. Ltd.	xxvi
Finmar, Ltd.	cxvii
Firth Vickers Stainless Steels, Ltd.	viii
Flexo Plywood Industries, Ltd.	cxv
Fordham Pressings, Ltd.	cxxvi
Frenger Ceilings, Ltd.	c
Gas Council	cxxviii
Gascoigne, George H., Co. Ltd.	lxxii
Gay, E., & Co.	xcv
Gent & Co. Ltd.	xlv
Glazed & Floor Tile Manufacturers' Association	lxiii
Gliksten, J., & Sons, Ltd.	xxxii
Goodlass, Wall & Co. Ltd.	lv
Granwood Flooring Co. Ltd.	lxxiv
Hall Engineering Co. Ltd.	liii
Hammond & Champness, Ltd.	cii
Harrison (Birmingham), Ltd.	cxxi
Harvey, G. A., & Co. (London) Ltd.	lvii
Hathernware, Ltd.	cxxiii
Haywards (Birmingham), Ltd.	ci
Heal & Son, Ltd.	lxxx
Higgs and Hill, Ltd.	liv
Hille of London, Ltd.	lxxxvi
Hills (West Bromwich) Ltd.	lxviii
Hope, Henry, & Sons, Ltd.	lxxxvii
Hygienette Mfg. Co., The	cviii
Ideal Boilers & Radiators, Ltd.	iv, lxii
Ideal Casements (Reading), Ltd.	lxxiii
Imperial Chemical Industries, Ltd.	1
Internat, Ltd.	xx
James, W., & Co. Ltd.	cxxv
Jenson & Nicholson, Ltd.	xxvii
Kerridge (Cambridge), Ltd.	xlvi
Kershaw Heating, Ltd.	cxv
Knoll International, Ltd.	lxxxiii
Latex Upholstery, Ltd.	cxii
Leaderflush, Ltd.	liii
Leisure Kitchen Equipment, Ltd.	cxvi
Limmer Trinidad Lake Asphalte Co. Ltd.	xxviii
Line, John, & Sons, Ltd.	xcii
London Brick Co. Ltd.	xlviii
Malkin Tiles (Burslem), Ltd., The	cxxiii
Mason, Joseph, & Co. Ltd.	xxxiii
Matthew Hall & Co. Ltd.	lxv
McKechnie Bros. Ltd.	cxix
Mellor Bromley (Air Conditioning), Ltd.	cxxiv
Mellowes & Co. Ltd.	cxxii
Midland Electric Manufacturing Co. Ltd.	cxiii
Minnesota Mining & Manufacturing Co. Ltd.	lxx
Monsanto Chemicals, Ltd.	xciii
Morris Singer Co. Ltd.	xlvii
Myton, Ltd.	xii
Newman, William, & Sons, Ltd.	xiii
Parnall, George, & Co. Ltd.	xiv
Phoenix Rubber Co. Ltd.	cxiv
Pilkington Bros., Ltd.	xli
Pilkington Tiles, Ltd.	cv
Pillinger, G. C., & Co. Ltd.	cx
Pressure Piling Companies, Ltd., The	lx
Pyrene Co. Ltd.	cxvi
Pyrotenax, Ltd.	cxxii
Race, Ernest	cxiii
Rawlplug Co. Ltd., The	xxxi
Redpath Brown, Ltd.	ii
Riley (IC) Products, Ltd.	cvi
Sankey, J. H., Ltd.	xci
Sevenoaks Brickworks, Ltd.	cviii
Shanks & Co. Ltd.	xxix
Shannon, Ltd., The	cxix
Shepherd, F., and Son, Ltd.	xlix
Siemens Edison Swan, Ltd.	lviii
Smith, Thomas, & Son, Ltd.	xxx
Smith & Walton, Ltd.	lxxv
Snapdek, Limited	lxxxviii
Steel Radiators, Ltd.	xxiii
Sugg, William, & Co. Ltd.	cxxi
Tarmac Vinculum, Ltd.	xxxviii
Teleflex Products, Ltd.	xvi
Thermalite, Ltd.	lxxvi
Tucker, G., & Son, Ltd.	cx
Tuke & Bell, Ltd.	cxiv
United Steel Structural Co. Ltd.	cii
U.A.M. Plastics, Ltd.	lxxxii
Vetrona Fabrics, Ltd.	lxxxv
Vigers Bros., Ltd.	cxviii
Warerite, Ltd.	iii
Wadsworth, William, & Sons, Ltd.	lxxxix
Walker, Crosweller & Co. Ltd.	lxxvii
Wandsworth Electrical Manufacturing Co. Ltd.	lxxi
Wardle, Bernard, & Co. Ltd.	lxiv
Weatherfoil Heating Systems, Ltd.	xxiv, xcix
Welwyn Builders, Ltd.	cxii
West's Piling & Construction Co. Ltd.	xc
Wright, Anderson & Co. Ltd.	xliii
X-Lon	cxxiii

"Sanitary Equipment . . .

hand me the Fordham file"

ARCHITECTS need look no further than Fordham when specifying Sanitary Equipment. In the extensive Fordham range there are fittings to suit every type of building, every scheme of decoration. Fordham Cisterns, for example, are available in high or low level models, in steel or plastic and in colours, white or black—the latest addition being the De Luxe 'Beveley' in superb black plastic. All models are fitted as Standard with the incorrodible Fordham All Polythene Syphon and Ball Float and available with the revolutionary new 'Acquasave' non-stick toughened plastic ball valve.

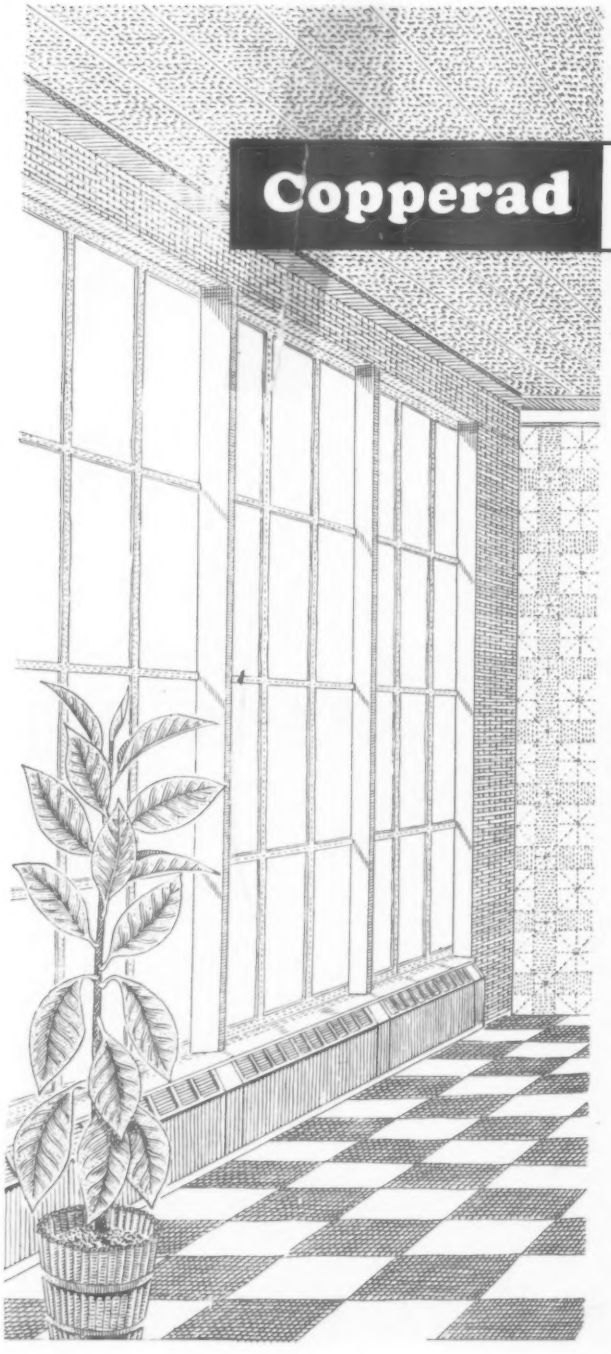
Remote controls by foot or hand a speciality.

May we send you fully illustrated literature on the Fordham range?

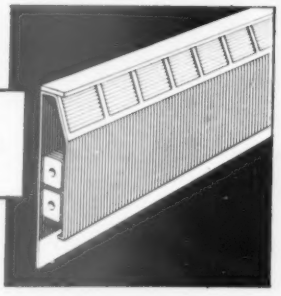
It pays to specify
FORDHAM—the best
SANITARY EQUIPMENT

FORDHAM PRESSINGS LTD., HEAD OFFICE & WORKS, DUDLEY ROAD, WOLVERHAMPTON Telephone: 23861-2

Copperad introduce *the latest* heating development



Copperad *Sill-line*



an entirely new and
versatile heating system
SIMPLE AND ECONOMICAL
TO INSTALL
flexible in application

Sill-line works in this way
Copperad SILL-LINE is a flexible heating system specially designed for large office blocks and similar establishments. SILL-LINE fits neatly beneath window-sills in a continuous run, emitting even heat along the length of the entire wall. SILL-LINE is fitted along outside-walls where the greatest heat loss occurs and the greatest heat input is desirable.

Sill-line is fitted in this simple way
With Copperad SILL-LINE no screw heads are visible—the great part of fitting is carried out by means of clips and spring fixings. Telephone cables and electric supply lines encased in metal conduit may be conveniently fitted below. SILL-LINE comes in a variety of sizes to meet variations in constructional designs.

Copperad SILL-LINE gives MORE heat for LESS money.

For further information contact your nearest Copperad representative or write for Publication S101.

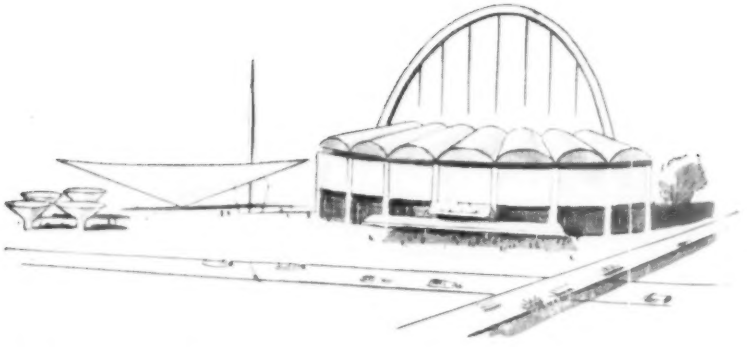
Copperad Ltd. Head Office & Works: COLNBROOK, BUCKS. Tel.: Colnbrook 2521 (8 lines) Grams: Copperad, Colnbrook

Scottish Office: 53 George Street, Edinburgh 2 Telephone: CALedonian 1562 •
London Office: 1 York Street, Baker Street, London, W.1. Telephone: WELbeck 1226/7 •
Birmingham Office: Wolverley House, 18 Digbeth, Birmingham 5 Telephone: MIDland 1553 •
Representatives at: Belfast, Bristol, Cardiff, Glasgow, Leeds, Manchester, Newcastle-on-Tyne, Nottingham •
Also at: Amsterdam, Auckland (N.Z.), Johannesburg, Lisbon, Brussels, Melbourne

Canada, Associated Companies: Manufacture—National Heating Products Ltd., Montreal. Distribution—The Douglas Engineering Co. Ltd., Toronto.

Printed in Great Britain for the Proprietors of "The Architects' Journal," of "The Architectural Review," and of "Specification" (The Architectural Press, Ltd.) 9-13, Queen Anne's Gate, Westminster, S.W.1, by Knapp, Drewett & Sons Ltd., by appointment to Her Majesty the Queen, Printers, Kingston-on-Thames.
Editorial illustrations engraved by The Engravers Guild Ltd., Windsor House, 23/26, Cursitor Street, London, E.C.4.
Entered in the New York Post Office as Second Class Matter

Tomorrow



Today's research in the Gas Industry aims at new and improved designs of space heaters and water heaters—automatic cookers with self-protected ignition—and more efficient flue systems—so that the Architect has greater scope to design even better buildings for tomorrow . . . **AND TODAY—** every industry and 12 million homes use **GAS.**

ISSUED BY THE GAS COUNCIL.